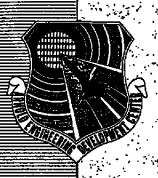
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PLANE, CYLINDRICAL, AND SPHERICAL
BLAST WAVES BASED UPON
OSHIMA'S QUASI-SIMILARITY MODEL



By

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December 1961

ARNOLD ENGINEERING DEVELOPMENT CENTER

AIR FORCE SYSTEMS COMMAND

UNITED STATES AIR FORCE

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## PLANE, CYLINDRICAL, AND SPHERICAL BLAST WAVES BASED UPON ŌSHIMA'S QUASI-SIMILARITY MODEL

Ву

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#### ABSTRACT

Numerical solutions are given for plane, cylindrical, and spherical blast waves in air based upon Oshima's quasisimilarity model (University of Tokyo, Report No. 358, July 1960, pp. 137-193). New solutions are given for plane and spherical waves in addition to the cylindrical solutions given previously by Oshima. The results for cylindrical flow do not agree with Oshima's results near the core of the explosion. These differences are discussed, and the precision of the present numerical solution is given. The results provide new data for investigating blast waves or the blast-hypersonic analogy.

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#### NOMENCLATURE

- "Decay coefficient" (see Eq. (16))
- $b_i$  Coefficients in J(M), Eqs. (25) and (26)
- c Speed of sound
- Energy of the blast wave (see Eq. (20))
- f = u/U, dimensionless velocity
- $g = (1/M^2)(p/p_0)$ , dimensionless pressure
- h =  $\rho/\rho_0$ , dimensionless density

$$J = \int_{\alpha'}^{1} ((\gamma/2)h f^{2} + g/(\gamma-1)) x^{\sigma} dx$$

- M Shock Mach number
- p Pressure
- R Radial distance from shock wave to center of explosion

$$R_o = \left( E/(\pi^{\delta} 2^{\sigma}) p_o \right)^{1/\sigma + 1}$$

- τ Radial or normal coordinate
- t Time
- U Shock velocity
- u Velocity
- x r/R
- a Blast core diameter
- $\alpha' = \alpha/R$ , dimensionless core diameter
- γ Ratio of specific heats
- Index which is zero when  $\sigma = 0$  and which is unity when  $\sigma \neq 0$
- $\rho$  Density
- Index indicating one-dimensional flow  $(\sigma = 0)$ , flow  $(\sigma = 1)$ , or spherical flow  $(\sigma = 2)$  cylindrical

#### SUBSCRIPTS

- Undisturbed free-stream condition
- R Condition at the shock

#### SUPERSCRIPT

Derivative with respect to x

#### INTRODUCTION

The solution of the unsteady flow associated with a spherical explosion in a perfect gas was first studied by Taylor (Ref. 1). Later, Lin (Ref. 2) considered the shock waves produced by a cylindrical blast. Sakurai (Refs. 3 and 4) extended the Taylor solution to include cylindrical and plane blasts by a series expansion of the flow quantities in terms of even inverse powers of the shock Mach number. Results for the first approximation (neglecting all terms of order equal to or greater than 2 in shock Mach number) are given in Ref. 3, and the second approximation (retaining terms up to second order in shock Mach number) are given in Ref. 4. Certain difficulties are encountered in these solutions where the shock Mach number can no longer be considered large (say when  $M \leq 3$ ). For such conditions large errors occur in the distributions of pressure and density within the disturbed region.

Recently, Ōshima (Ref. 5) developed a new approach to the unsteady blast problem in which the flow within a cylindrical shock created by a blast is assumed to be similar near the shock wave, i. e., the partial derivatives of the normalized flow quantities (velocity, pressure, and density) with respect to the shock Mach number are constant. This assumption allows one to reduce the partial differential equations describing the flow to total differential equations in terms of one space variable and a parameter.

This paper extends Ōshima's "quasi-similarity" model to cases of plane and spherical flows and corrects some numerical errors in Ōshima's original calculation of cylindrical flow. In recent private communications (Ref. 6), Ōshima indicated that the solution of the spherical case had been obtained and published in a Japanese language report.

For completeness, Öshima's equations for one-, two-, and three-dimensional flows are presented in the following section.

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## QUASI-SIMILAR FLOW EQUATIONS IN ONE, TWO, AND THREE DIMENSIONS

The continuity, momentum, and energy equations for a non-viscous, non-heat conducting perfect gas are

$$\frac{\partial u}{\partial t} + u \frac{\partial u}{\partial r} = -\frac{1}{\rho} \frac{\partial p}{\partial r} \tag{1}$$

$$\frac{\partial \rho}{\partial t} + u \frac{\partial \rho}{\partial r} + \rho \left[ \frac{\partial u}{\partial r} + \frac{\sigma u}{r} \right] = 0$$
 (2)

$$\frac{\partial}{\partial t} (p \rho^{-\gamma}) + u \frac{\partial}{\partial r} (p \rho^{-\gamma}) = 0$$
 (3)

where u, p, and  $\rho$  are the velocity, pressure, and density, r is the distance from the center, t is the time, y the ratio of specific heats, and  $\sigma$  is an index indicating one-dimensional  $(\sigma=0)$  two-dimensional  $(\sigma=1)$ , or the three-dimensional  $(\sigma=2)$  flow. The boundary conditions on Eqs. (1), (2), and (3) are

$$u(R) = \frac{2}{\gamma + 1} \frac{U^2 - c_0^2}{U} = \frac{2}{\gamma + 1} U \left[ 1 - \left( \frac{c_0}{U} \right)^2 \right]$$
 (4)

$$\frac{p}{p_0} (R) = \frac{2\gamma}{\gamma + 1} \frac{U^2}{c_0^2} - \frac{\gamma - 1}{\gamma + 1}$$
 (5)

$$\frac{\rho}{\rho_{o}} (R) = \frac{\frac{\gamma+1}{\gamma-1}}{1 + \frac{2}{\gamma-1} \frac{c_{o}^{2}}{\Pi^{2}}}$$
 (6)

where  $c_0$  is the speed of sound of the undisturbed gas, U the shock velocity, and r=R at the shock. Making the substitutions

$$U = \frac{dR}{dt} \quad \text{and} \quad M = \frac{U}{c_0} \tag{7}$$

the transformation of variables

$$f = \frac{u}{U}, g = \frac{1}{M^2} \frac{p}{p_0}, h = \frac{\rho}{p_0}$$
 (8)

and

$$x = \frac{r}{R}, R = \int_{t(R=0)}^{t(R=R)} U dt$$
 (9)

Eqs. (1), (2), and (3) become

$$R \frac{\partial f}{\partial R} + (f - x) \frac{\partial f}{\partial x} + \frac{R}{U} \frac{dU}{dR} f = -\frac{1}{\gamma h} \frac{\partial g}{\partial x}$$
 (10)

$$R \frac{\partial h}{\partial R} + (f - x) \frac{\partial h}{\partial x} \approx -h \left[ \frac{\partial f}{\partial x} + \frac{\sigma f}{x} \right]$$
 (11)

$$R \frac{\partial g}{\partial R} + (f - x) \frac{\partial g}{\partial x} + 2 \frac{R}{U} \frac{dU}{dR} g = -\gamma g \left[ \frac{\partial f}{\partial x} + \frac{\sigma f}{x} \right]$$
 (12)

Introduce now the quasi-similar assumption

$$\frac{\frac{\partial h}{\partial M}}{h} = \frac{\left(\frac{\partial h}{\partial M}\right)_{x=1}}{h(1)} = \frac{\frac{4}{\gamma - 1} \frac{1}{M^3}}{1 + \frac{2}{\gamma - 1} \frac{1}{M^2}}$$
(13)

$$\frac{\frac{\partial f}{\partial M}}{f} = \frac{\left(\frac{\partial f}{\partial M}\right)_{x=1}}{f(1)} = \frac{\frac{2}{M^3}}{1 - \frac{1}{M^2}}$$
(14)

$$\frac{\frac{\partial g}{\partial M}}{g} = \frac{\left(\frac{\partial g}{\partial M}\right)_{x=1}}{g(1)} = \frac{\frac{2(\gamma-1)}{M^3}}{2\gamma - \frac{\gamma-1}{M^2}}$$
(15)

and the assumption (see Ref. 5, p. 143) that

$$\frac{R}{U} \frac{dU}{dR} = \underline{a} = constant$$
 (16)

When Eqs. (13) through (16) are substituted into Eqs. (10) through (12) the result becomes

$$(f - x) \frac{df}{dx} + \frac{1}{\gamma h} \frac{dg}{dx} = -\left[1 + \left(\frac{2}{M^2}\right) / \left(1 - \frac{1}{M^2}\right)\right] \underline{a} f \qquad (17)$$

$$h \frac{df}{dx} + (f - x) \frac{dh}{dx} = -\frac{\sigma hf}{x} - \left[ \left( \frac{4}{\gamma - 1} \frac{1}{M^2} \right) / \left( 1 + \frac{2}{\gamma - 1} \frac{1}{M^2} \right) \right] \frac{ah}{x}$$
 (18)

$$\gamma g \frac{df}{dx} + (f - x) \frac{dg}{dx} = -\frac{\sigma \gamma gf}{x} - \left[2 + \frac{2(\gamma - 1)(1/M^2)}{2\gamma - (\gamma - 1)(1/M^2)}\right] = g$$
 (19)

satisfying the boundary conditions

$$f(1) = \left(\frac{u}{U}\right)_{R} = \frac{2}{y+1} \left(1 - \frac{1}{M^{2}}\right)$$

$$g(1) = \frac{1}{M^2} \left(\frac{p}{p_o}\right)_{R} = \frac{2\gamma}{\gamma+1} - \left(\frac{\gamma-1}{\gamma+1}\right) \frac{1}{M^2}$$

$$h(1) = \left(\frac{\rho}{\rho_o}\right)_R = \frac{(\gamma+1)/(\gamma-1)}{1+\left(\frac{2}{\gamma-1}\right)\frac{1}{M^2}}$$

The total energy of the blast wave (per unit area when  $\sigma = 0$  and per unit length when  $\sigma = 1$ ) is

$$E = \int_{a}^{R} \frac{1}{2} \rho u^{2} \pi^{\delta} (2r)^{\sigma} dr + \int_{a}^{R} \frac{p - p_{\sigma}}{\gamma - 1} \pi^{\delta} (2r)^{\sigma} dr$$
 (20)

$$= \pi^{\delta} 2^{\sigma} R^{\sigma+1} p_{o} \left( M^{2} J - \frac{1-\alpha^{(\sigma+1)}}{(\gamma-1)(\sigma+1)} \right)$$
 (21)

where

$$J = \int_{\alpha}^{1} \left( \frac{\gamma}{2} h f^{2} + \frac{g}{\gamma - 1} \right) x^{\sigma} dx$$
 (22)

 $\alpha$  is the core diameter,  $\alpha' = \alpha/R$ , and  $\delta = 0$  when  $\sigma = 0$  and  $\delta = 1$  when  $\sigma \neq 0$ . Define now a characteristic length  $R_0$  as  $R_0^{\sigma+1} = \frac{E}{\pi^{\delta} 2^{\sigma} P_0}$ ; then Eq. (21) becomes

$$\left(\frac{R_o}{R}\right)^{\sigma+1} = M^2 J - K(\alpha', \sigma)$$
 (23)

where  $K(\alpha', \sigma) = \frac{1 - \alpha'^{(\sigma+1)}}{(\gamma-1)(\sigma+1)}$ 

For a constant total energy wave,  $\frac{dE}{dR} = 0$ , then Eq. (16) can be expressed as

$$a = -\frac{\sigma + 1}{2} - \frac{R}{2J} \frac{dJ}{dR} + \frac{1}{2M^2 J} \frac{1 - \alpha^{(\sigma+1)}}{(\gamma - 1)}$$

$$= -\frac{\sigma+1}{2} - \frac{1}{2J} \left( \left[ \frac{4(1/M^2)}{1-(1/M^2)} - \frac{\left[4/(\gamma-1)\right](1/M^2)}{1+\left[2/(\gamma-1)\right](1/M^2)} \right] = \int_{\alpha}^{1} \frac{\gamma}{2} hf^2 x^{\sigma} dx$$

$$+\left[\frac{2(y-1)(1/M^2)}{2y-(y-1)(1/M^2)}\right] \stackrel{a}{=} \int_{\alpha}^{1} \frac{gx^{\sigma}}{y-1} dx - \frac{1}{M^2} \frac{1-\alpha'^{(\sigma+1)}}{(y-1)}\right]^{\alpha'}$$
(24)

Except for the factor (y-1) omitted in the integral on g in Ref. 2, Eq. (24) reduces to Oshima's Eq. (3-10), Ref. 5, for  $\sigma=1$ . However, this equation was not necessary to the numerical solution method presented here.

#### NUMERICAL SOLUTIONS

Equations (17) through (19) were programmed for an IBM 7070 digital computer as x ranged over the values from 1.0 to 0.02 for M between 1.1 and infinity. Runge-Kutta iterative solutions were obtained by considering a to be a parameter which was assigned different values until the system (Eqs. (17) through (19)) was satisfied for all x in the range from 0.02 to 1.0 with f > 0 and f', g', and  $h' \ge 0$ . The step size was kept constant throughout the integration interval, but the effect of step size was investigated, as is discussed more fully below.

Perhaps a comment is in order on the choice of the numerical solution procedure. Oshima included Eq. (24) for a into the system of equations to be solved. This reduced the system to four coupled equations in four unknowns: f, g, h, and a. However, such a procedure requires some knowledge about  $a' = \frac{a}{R} = \frac{\text{core diameter}}{\text{shock radius}}$ , which is the lower limit of integration appearing in a. To be sure, the numerical solutions presented here are not without error, but for a weak wave ( $M \le 2$ ) the core diameter may no longer be neglected without some error. The values of J given here assume an a' = 0.02 for all Mach numbers, and this assumption affects only J.

#### RESULTS AND DISCUSSION

The results of the machine calculations for y=1.4 are given in Tables 1 through 4. The "decay coefficient," a, for plane, cylindrical, and spherical blast waves is given in Fig. 1. Also shown are Ōshima's results and Sakurai's first and second approximations. The difference between the present results and Ōshima's was investigated for M=2, which is the maximum Mach number given in Ref. 5. These differences are more apparent when a comparison between the solutions for g at M=2 is made (Fig. 2). The present results and Ōshima's results agree well for 0.85 < x < 1.0, but for smaller values of x the differences become large; however, the quasi-similarity model should not be expected to remain uniformly valid throughout  $0 \le x \le 1$ . It should be noted that Ōshima did not carry his numerical computations to completion, but

rather bounds on a were given between which a solution value for a was estimated. Note the rather good agreement in f for the present solution and in Sakurai's second approximation. Plots of the normalized pressure  $(P/P_R)$ , density  $(P/P_R)$ , and velocity  $(u/u_R)$  as a function of x are given in Figs. 3 through 5. The function J(M) was computed and is shown plotted in Fig. 6. If a' (the non-dimensionalized core diameter) is assumed to be constant (say equal to 0.02), then Eq. (23) can be evaluated at least by approximate numerical methods. It was found that J(M) could be expressed in the form

$$J = b_0 + b_1 \left(\frac{1}{M}\right) + b_2 \left(\frac{1}{M}\right)^2$$
 (25)

within ±1 percent if the point M = ∞ is neglected.

Substituting Eq. (25) into Eq. (23) yields

$$M = \frac{-b_1 + \sqrt{b_1^2 - 4b_0[b_2 - K - (R_0/R)^{\sigma+1}]}}{2b_0}$$
 (26)

and integrating Eq. (23) gives

$$\frac{c_o t}{R_o} = \int_o^{R/R_o} \frac{1}{M} d(R/R_o)$$
 (27)

The propagation of quasi-similar blast waves is shown in Fig. 7 where the second approximation results of Sakurai are also given.

#### PRECISION OF RESULTS

A numerical check of the machine calculations was made for the M=2 cylindrical solution. For a solution value of  $\underline{a}$ , the results were found to satisfy Eqs. (17) through (19) at  $\underline{x}=0.100$  within 1 in  $10^5$ . That is, the solution obtained satisfied the original equations and the tests on  $\underline{f}$ , and the derivatives of  $\underline{f}$ ,  $\underline{g}$ , and  $\underline{h}$  for all values of  $\underline{x}$ . The solution was substituted into Eq. (24), and the values for  $\underline{a}$  were found to agree within 5 in  $10^4$  where Eq. (24) was evaluated by trapezoidal rule with a  $\Delta \underline{x} = 0.01$  (the step size in Eqs. (17) through (19) was also  $\Delta \underline{x} = 0.01$ ). A variation in step size in Eqs. (17) through (19) from  $\Delta \underline{x} = 0.01$  to  $\Delta \underline{x} = 0.005$  produced a change in  $\underline{a}$  of only 5 in  $10^4$ . For this specific case,  $\underline{a}$  satisfied all tests within 4 in  $10^4$ .

In a private communication (Ref. 6) Ōshima indicated that errors in the numerical solution given in Ref. 5 had been found because of the limited capacity of the machine used. However, as he also noted, the main results (conditions near the shock wave) were not affected.

For the plane wave, the solution value for <u>a</u> at  $M = \infty$  is exactly -0.5. An examination of the results in Table 1 shows that the value obtained in the present numerical solution ( $M = 10^{\circ}$ ) was -0.5001563 and this was obtained with  $\Delta x = 0.0005$ . It was found that with  $\Delta x = 0.02$  the value was  $\frac{a}{\Delta x} = -0.50625$ . This dependence on step size was not as strong in the cylindrical case since with a  $\Delta x = 0.01$  the numerical solution value for  $M = 10^{\circ}$  was -1.000084 compared with the correct value of exactly minus one for  $M = \infty$ .

Similar conditions occurred in the solutions of the spherical case. It was found that for  $M = \infty$ , 10, and 7 it was necessary to use  $\Delta x = 0.005$ , for M = 5 a  $\Delta x = 0.01$ , and for  $M \le 4$  a  $\Delta x = 0.02$  was used. The value of h'(1) influenced the step size necessary for satisfying the conditions imposed on f and f', g', h'. For  $M \ge 7$  [h'(1)  $\sim 10^2$ ] a step size of 0.005 was necessary, whereas for  $M \le 2$  [h'(1)  $\le 10$ ] a step size of 0.02 was adequate.

#### CONCLUDING REMARKS

Solutions have been obtained for plane, cylindrical, and spherical blast waves in an ideal gas ( $\gamma=1.4$ ) based upon the quasi-similarity model of Ōshima. The results for the cylindrical case do not agree with the previously published results of Ōshima; the differences are large for the pressure near the core of the wave. New solutions for plane and spherical blast waves are given for the quasi-similarity model. The accuracy of the numerical solutions is discussed, and some comparisons with Ōshima's results are given.

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TABLE 1 DECAY COEFFICIENT AND J FOR PLANE, CYLINDRICAL, AND SPHERICAL BLAST WAVES IN AIR

|      |              | <u>a</u>     | <del>. •</del> | J            |              |              |              |
|------|--------------|--------------|----------------|--------------|--------------|--------------|--------------|
| M    | $\sigma = 0$ | $\sigma = 1$ | $\sigma = 1^*$ | $\sigma = 2$ | <i>σ</i> = 0 | $\sigma = 1$ | $\sigma = 2$ |
| 1.1  | 0.03353125   | 0.07610938   | 0.074          | 0.1200470    | 2. 238143    | 1.132133     | 0.7594309    |
| 1, 2 | 0.07234375   | 0.1530518    | 0, 148         | 0.2360831    | 2.067214     | 1.053687     | 0.7089517    |
| 1.4  | 0,1398438    | 0. 2840527   | 0. 277         | 0.4298776    | 1.856487     | 0.9523104    | 0.6439443    |
| 1.6  | 0. 1925000   | 0. 3854688   | 0.37           | 0.5783912    | 1.734176     | 0.8922118    | 0.6061182    |
| 1.8  | 0.2351563    | 0.4649492    |                | 0.6947503    | 1.649026     | 0.8555259    | 0.5831361    |
| 2.0  | 0, 2681563   | 0.5291409    | 0.495          | 0.7890167    | 1.602495     | 0.8325405    | 0.5686623    |
| 2.4  | 0.31875      | 0.6274531    |                | 0.9346344    | 1,551781     | 0.8094217    | 0.5532905    |
| 3.0  | 0.3696875    | 0,7292188    | ļ              | 1.087176     | 1,535174     | 0.8010613    | 0.5465660    |
| 3.5  | 0.3984375    | 0. 7877883   |                | 1.175969     | 1.542516     | 0.8043746    | 0.5477476    |
| 4.0  | 0.4200000    | 0.8307227    |                | 1. 241275    | 1.552424     | 0.8108064    | 0.5514460    |
| 5.0  | 0.4459375    | 0.8867132    |                | 1.326725     | 1.586076     | 0.8251951    | 0.5585792    |
| 7.0  | 0.4721875    | 0.9403980    |                | 1.408693     | 1.624687     | 0.8461239    | 0.5713443    |
| 10.0 | 0.4858594    | 0.9704509    |                | 1.454676     | 1.656931     | 0.8598556    | 0.5818645    |
| 00   | 0.5001563    | 1.000084     |                | 1.500001     | 1.6968436    | 0.8775978    | 0.5928437    |
| 00   | 0.5000000**  | 1.000000**   |                | 1.500000**   | 1.696**      | 0.877**      | 0.596**      |

<sup>\*</sup>Ōshima's estimated value (Ref. 5) \*\*Sakurai's first approximation (Ref. 3)

TABLE 2 PLANE (ONE-DIMENSIONAL) BLAST WAVES IN AIR

M = 1.1х Z ľ h p/p<sub>R</sub> u/u<sub>R</sub>  $P^{\prime}P_{\rm B}$ 1:000000+00 1.028926+00 1+46279-01 1+169082+00 1+0000000+00 1+000000+00 1.000000+00 9.800000-01 1.011165+00 1.329927401 14154623+00 9+827365-01 9 - 192741-01 9:876329-01 9 : 600000-01 9-956191-01 1.225433-01 1.141907+00 9+476299-01 8 - 479010-01 9=747553-01 94400000-01 9.620826-01 1.139189-01 1.130787+00 9.544739-01 7+835208-01 9 472434-01 9+200000-01 9.703135-01 1.051629-01 1-121082+00 9+430357-01 7-271271-01 9.589421-01 9-000000-01 9-600670-01 94794459-02 1:112604+00 9+330773-01 6 . 772179-01 9+516903-01 8.800000-01 9.511155-01 9+153564-02 1e105175+00 9+243772-01 6.329046-01 9-453358-01 8.600000-01 9.432577-01 84581844-02 1-096636+60 9-167405-01 54933741-01 9.397430-01 8.400000-01 9-363234-01 8.069007=02 14092852+00 9:040203-01 5.579150-01 9+347952-01 8.200000-01 9:301695-01 7:604277=02 1.087708+00 5.259205-01 9+303947-01 8.000000-01 9.246782-01 7:186279-02 1.083107+00 8+986833-01 4.948806-01 9+264596-01 7.80C000-01 9.197521-01 6:802857-02 1.078973+00 8:938937-01 44703697-01 9+229234-01 7.600000-01 9.153112-01 6:450BB5-02 1:075239+00 8.895797-01 4+460334-01 9.197297-01 7:400000-01 9.112896-01 6.126093-02 1.071852+00 8,856711-01 40235762-01 9:148327-01 7.200000=01 9.076325-01 5+824909-02 1.066768+00 8-821144-01 4.027515~01 9-141942-01 7:000000-01 9.042942-01 3.544337-02 1.065948+00 8.788724-01 34633519-01 9-117821-01 6 | 800000=01 9.012367-01 5+281851-02 1.063362+00 8.759009-01 3+652028-01 9.095698-01 6+600000-01 8.984279-01 5.035308-02 1.060982+00 Be791710-01 3 - 48 1561-01 9+075345-01 44400000-01 8.958404-01 4.002861-02 1.058787+00 B.706562-01 3.320854-01 9+056572-01 6.200000-01 8.934512-01 44583006-02 1.056758+00 8+683342-01 34168826-01 9.039212-01 64000000-01 8.912404-01 4.374334-02 1.054877+00 8-661856-01 3-024544-01 9.023127-01 5.800000-01 8.891910-01 4+175697-02 1.053132+00 8+641935-01 2+687201-01 9+008194-01 5.600000-01 3.986077-02 8.872882-01 14051509+00 8 = 623445-01 2.756092-01 8.994312-01 5#400000-01 8+855192-01 3 = 804584-02 1.049997+00 8=606252-01 2 • 630602-01 8-981385-01 8.838729-01 5 · 200000-01 3 - 630434-02 1-048589+00 8.590251-01 2.510190-01 Be969337-01 5.000000-01 8.823394-01 3+462936-02 1=047275+00 8.575348-01 24394376-01 4.958097-01 4#800000=01 8.809103-01 3.301474-02 1.046048+00 8+761456-01 2 = 282737-01 4 . 660000=01 8.795778-01 8 - 94 7603 - 01 3.145500-02 1.044902+00 8.548508-01 2 - 174892-01 8.937807-01 44400000-01 8.783353-01 2.994525-02 1.043832+00 8.536433-01 2.070503-01 8+928645-01 4-200000-01 84771769-01 2.848106-02 1.042831+00 8+525174-01 1.969265-01 8.920088-01 4+000000-01 8.760973-01 2.705844-02 1.041897+00 B+514682-01 1.870901-01 8.912095-01 3+8000000-01 8.750918-01 2.567378-02 1.041024+00 8-504909-01 1.775162-01 8+904630-01 3.6000000-01 8.741562-01 7-497379-02 1.040209+00 B.495815-01 1+681819-01 B.R97661-01 3+400000-01 8.732867-01 2-300546-02 1.039450+00 8 - 487365-01 1+590666-01 B.891164-01 3.200000-01 8.724800-01 7-171601-02 1.038742+00 8 - 479525-01 1:501509-01 8 - 885111-01 8.717331-01 3.000000-01 2.045241-02 1.038084+00 8+472266-01 1+414175-01 Ba879479-01 2.800000-01 8.710432-01 1.721379-02 1.037472+00 A+465562-01 1.328498-01 8-874248-01 2.600000-01 8.704082-01 1:799846=02 1:036905+00 8+459390-01 1.244329-01 8-869400-01 2 400000-01 8:698256-01 1 . 679848-02 1:036381+00 8+453728-01 1 • 161524-01 8.864914-01 2 . 200000-01 84692938-01 1.561913-02 1.035897+00 8.448559-01 1.079953-01 8.860776-01 2.000000-01 8.688109=01 1 4445540-02 1,035452+00 8 • 443866-01 9=994893=02 8.856969-01 1.800000-01 A.683755-01 14330579-02 1.035044+00 8+439634-01 9.200158-02 8-853475-01 1+600000-01 8.679862-01 1.216978-02 1.034670+00 8+435851-01 B-414202-02 B. 850279-01 1.4000000-01 8.676419-01 1-104372-02 1.034329+00 8+432505-C1 7+635256-02 8 6 6 4 7 3 6 2 - 0 1 14200000-01 Ra673416-01 9e927830-03

1.034018+00

1.033733+00

1.033469+00

1+033216+00

1.032952+00

1+032598+00

8=429586-01

8:427087-01

8-425001-01

8+423322-01

8+422045-01

8+421167=01

6-864396-02

6.090533-02

5 - 337411-02

4.580077-02

3.825681-02

3.073266-02

6.844700-01

F+842264-01

4.840005-01

8:837841~01

8 835579-01

8:832551-01

1:000000-01

8.000000-02

6.0000000-02

4.000000-02

? • 0000000~02

8.670845-01

8+668699-01

Re666970-01

Re665657-01

B.664754-01

Ra#20179=63

74719344-03

6.624097-03

5.533001-03

4444100-03

<u>u</u> = 1.2

| x                    | g                        | f                     | h           | p/p <sub>R</sub>                        | u/u <sub>R</sub> | $\rho/\rho_{ m R}$       |
|----------------------|--------------------------|-----------------------|-------------|---|------------------|--------------------------|
|                      | 1.050926+00              | 2.546300=01           | 1.341615+00 | 1.000000+00                             | 1.000000+00      | 1.000000+00              |
| 1.000000+00          |                          | 2.403944-01           | 14320129+00 | 9.777386-01                             | 9-440932-01      | 9.839844-01              |
| 9.800000-01          | 1.027531+00              | 2.268658-01           | 1.300059+00 | 9.570796-01                             | 8:909627=01      | 9.690254-01              |
| 9.600000-01          | 1.005820+00              |                       | 1.281392+00 | 9.379812-01                             | 8.406954-01      | 9.551109-01              |
| 9.400000-01          | 9.857487-01              | 2:140662=01           | 1.264091+00 | 94203850-01                             | 7.933246-01      | 9.422156-01              |
| 94200000-01          | 9.672565-01              | 2 • 0 2 0 0 4 2 = 0 1 | 1.248107+00 | 9+042183-01                             | 7.488304-01      | 9-303016-01              |
| 94000000-01          | 9.502664-01              | 1.906747-01           |             | 8-895969-01                             | 7-071454-01      | 9.193211-01              |
| 8.800000=01          | 9:346902-01              | 1.800604-01           | 1.239375+00 | 8.758291-01                             | 6.681624=01      | 9.092190-01              |
| 8±600000-01          | 9:204315-01              | 1.701342=01           | 1.219822+00 | 8 634195-01                             | 6.317447-01      | 8.999353-01              |
| 8.400000=01          | 9.073899-01              | 1.608611-01           | 1.207367+00 | • | 5.977358-01      | 8.914078-01              |
| B <b>a 200000-01</b> | 8 <b>.954646-01</b>      | 1.522014=01           | 1+195926+00 | 8+520723-01                             | 5.659680-01      | 8.835749-01              |
| 8,000000-01          | B <sub>e</sub> B455B1-01 | 1.441124-01           | 1,185418+00 | 8.416941-01                             | 5.362706-01      | 8.763767-01              |
| 7.800000-01          | 8,745765-01              | 1:365506-01           | 1.175761+00 | 8.321961-01                             | 5.084753=01      | 84497566-01              |
| 7,600000=01          | 8.654327-01              | 1:294730-01           | 1.166879+00 | 8.234955-01                             |                  | 8.636617-01              |
| 7.400000-01          | 8.570466-01              | 1.228386-01           | 1.158702+00 | 8.155157-01                             | 4.824200-01      | 8.580495-01              |
| 7.200000-01          | 8.493449-01              | 1.166083-01           | 1.151164+00 | 8.081872-01                             | 44579519-01      | \$4528576=01             |
| 7.000000=01          | 8.422618=81              | 1•107459-01           | 1.144207+00 | 8:014474-01                             | 4.349288-01      |                          |
| 64800000-01          | 8.357381-01              | 1.052181-01           | 1.137776+00 | 7.952398-01                             | 4-132197-01      | 8,480639=01              |
| 6.500000-01          | 8.297209-01              | 9.999438-02           | 1.131823+00 | 7.895142-01                             | 3+927047-01      | 8.436266-01              |
| 6.400000-01          | 8.241631=01              | 9.504696-02           | 1+126304+00 | 7.842257-01                             | 3.732749-01      | 8.395135-01              |
| 6-200000-01          | 8-190228-01              | 9:035070-02           | 1.121182+00 | 7.793344-01                             | 3.548314-01      | 8.356955-01              |
| 6-000000-01          | 8.142628-01              | 8.588287-02           | 1.116421+00 | 7+748052=01                             | 3+372850-01      | 8.321468-01              |
| 54800000-01          | 8-098502-01              | 8:162295-02           | 1,111991+00 | 7:706064-01                             | 3+205552-01      | 8.288447-01              |
| 5.600000=01          | 8.057557=01              | 74755241-02           | 1.107864+00 | 7+667105-01                             | 3.045691-01      | 8.257684-01              |
| 5.400000-01          | 8.019532-01              | 7-365454-02           | 1:104015+00 | 7:630920-01                             | 2.892611-01      | 8.228997-01              |
| 5.200000-01          | 7.984195-01              | 6.991423=02           | 1.100423+00 | 7 <b>:597295-</b> 01                    | 2.745719-01      | 8.202222-01              |
| 5.000000-01          | 7-951339-01              | 6.631781-02           | 1.097067+00 | 7.566032=01                             | 2 • 604478-01    | 8,177212-01              |
| 4.800000-01          | 7.920783-01              | 6 285292-02           | 1.093931+00 | 7 <b>:536956=</b> 01                    | 2+488409-01      | 8.153833-01              |
| 4.600000-01          | 7.892360-01              | 54950832-02           | 1.090998+00 | 7:509911=01                             | 2.337051-01      | 0.131969-01              |
| 4.400000-01          | 7.845925-01              | 5-627379-02           | 1.088253+00 | 7.484757-01                             | 2-210023-01      | 8.111512-01              |
| 4.200000-01          | 7-841347-01              | 5.314003-02           | 1.085684+00 | 7.461370-01                             | 2.086951-01      | 8.092365-01              |
| 4.000000-01          | 7.818507-01              | 5.009851-02           | 1.083280+00 | 7.439637-01                             | 1.967509-01      | 8.074441-01              |
| 3 B00000-01          | 7.797302=01              | 4.714145-02           | 1.081028+00 | 7:419459-01                             | 1.851371-01      | 8.057661-01              |
| 3.600000-01          | 7.777636-01              | 4.426168-02           | 1.078921+00 | 7.400747-01                             | 1.738275-01      | 8.041951-01              |
| 3.400000-01          | 7.759425-01              | 4.145260-02           | 1.076947+00 | 7.383418-01                             | 1.627955-01      | 8 <sub>0</sub> 027242=01 |
|                      | 74742593-01              | 3 870812-02           | 1.075100+00 | 7-367402-01                             | 1.520171-01      | 8.013475 <b>-</b> 01     |
| 3.200000-01          | 7.727072-01              | 3.602256-02           | 1.073371+00 | 7+352632-01                             | 1.414703-01      | 8.000589-01              |
| 3+0000000=01         | 7.712800-01              | 3.339069-02           | 1.071754+00 | 7+339052-01                             | 1:311342-01      | 7.988532-01              |
| 2.800000=01          | 7.699724-01              | 3.080758-02           | 1.070240+00 | 7.326609-01                             | 1.209896-01      | 7.977246-01              |
| 2.600000-01          | 7.697793-D1              | 2.826863-02           | 1.068822+00 | 7-315257-01                             | 1.110185-01      | 7.966681-01              |
| 2.400000-01          | 7.676964-01              | 2.576951=02           | 1.067494+00 | 7.304953-01                             | 1.012038-01      | 7.956789-01              |
| 2.200000-01          | 7.667199-01              | 2.330616-02           | 1.066249+00 | 7-295661-01                             | 9.152951-02      | 7.947497-01              |
| 2.000000-01          |                          | 2.087468-02           | 1.065076+00 | 7-287348-01                             | 8-198046-02      | 7.938759-01              |
| 1.800000-01          | 7:658463-01              | 1.847141-02           | 1.063968+00 | 7.279986-01                             | 7.254216-02      | 7.930498-01              |
| 1.600000-01          | 7.650726=01              | 1.609281=02           | 1.062911+00 | 7-273549-01                             | 6.320078-02      | 7.922622-01              |
| 1.400000-01          | 7.643961-01              | 1.373551=02           | 1.061890+00 | 7.268015-01                             | 5 394304-02      | 7.915013-01              |
| 1.200000-01          | 7.638145-01              | 1.139625=02           | 1.060882+00 | 7.283366-01                             | 44475634-02      | 7.907496-01              |
| 1.000000-01          | 7.633260-01              | • •                   | 1.059848400 | 7-259567-01                             | 3.562767-02      | 7.899791=01              |
| 8.000000-02          | 7,629288-01              | 9,071872=03           | 1.058720+00 | 7.256664-01                             | 2.654554-02      | 7.891385-01              |
| 6.000000-02          | 7.626216-01              | 6.759289=03           | 1.057347+00 | 7.254588-01                             | 1.749791-02      | 7.881146-01              |
| 4.000000-02          | 7.624035-01              | 4:455491=03           | 1.055248+00 | 7.253351-01                             | 8.473143=03      | 7.865501-01              |
| 2 <b>.00</b> 0000-02 | 7.622735-01              | 2.157516-03           | 18037240400 |   |                  |                          |

| x                          | g                          | Í                     | h           | p/p <sub>R</sub>     | u/u <sub>R</sub>               | ρ/ρ <sub>R</sub>      |
|----------------------------|----------------------------|-----------------------|-------------|----------------------|--------------------------------|-----------------------|
| 1+000000+00                | 1.081633+00                | 4.081632=01           | 1+689655+00 |                      |                                | r. rR                 |
| 9.800000-01                | 2.050731+00                | 3.916356-01           |             | 1.000000400          | 1:000000+00                    | 1+000000+00           |
| 94600000-01                | 1.021429+00                | 3.754773=01           | 1.654216+00 | 9.714309-01          | 94595074~01                    | 9+790261-01           |
| 94400000-01                | 9-936901-01                | 34597133-01           |             | 9.443397-01          | 9•199195-01                    | 9.589691=01           |
| 9 200000-01                | 94674788-01                | 3+443671-01           | 1.587979+00 | 90186946-01          | 8 • 812978-01                  | 9-398244-01           |
| 9.000000-01                | 9.427544-01                | 3.294594-01           | 1.557161+00 | 8.944615-01          | 8 <b>4 4 4 4 9 9 9 9 - 0</b> 1 | 9.215850-01           |
| 8 800000-01                | 9-194735-01                | 3.150082-01           | 1.527855+00 | 84716032-01          | 8:071757~01                    | 9 4 042408-01         |
| 8.600000=01                | 8.975891-01                | 3.010279-01           | 14500039+00 | 8+500794=01          | 7:71 <b>7703-01</b>            | 8 4877786-01          |
| 8-400000-01                | 8.770505=01                | 2•875288 <b>=</b> 01  | 1.473686+00 | 8:298465-01          | 7•375185-01                    | 8.721818-01           |
| 8-200000-01                | 8.578039-01                | 2.745172-01           | 1.448761+00 | 6.108580-01          | 7:044457-01                    | 8+574302-01           |
| 8+000000=01                | 8.397929=01                |                       | 1.425224+00 | 7+930641-01          | 6•725479-01                    | 8.435001-01           |
| 7.800000-01                | 8.229587-01                | 2.619951-01           | 1.403030+00 | 7=764124-01          | 6:418882-01                    | 8+303649-01           |
| 7.600000-01                | 8.072411-01                | Z 499605-01           | 1.382129+00 | 74608487-01          | 6.124032-01                    | 6.179950=01           |
| 74400000-01                | 7.925792=01                | 2:384072-01           | 1+362468+00 | 7:463173-01          | 5.840976-01                    | 8 • 063585-01         |
| 74200000-01                | 7.789120-01                | 2 • 273257=01         | 1.343988+00 | 7•327619-01          | 5.569481-01                    | 7+954218-01           |
| 7.000000-01                | 7.661795-01                | 2.167036-01           | 1.326632+00 | 7:201263-C1          | 5.309239-01                    | 7.851499=01           |
| 6 800000=01                | 7.543229-01                | 2.065257-01           | 1.310340+00 | 7 <b>+083547-</b> 01 | 5.059881-01                    | 7-755076-01           |
| 64600000=01                |                            | 1.967749-01           | 1.295052+00 | 6.973929-01          | 4.820987-01                    | 7.664592-01           |
| 6.400000=01                | 7:432854-01<br>7:330126-01 | 1.874327-01           | 1:280707+00 | 6+871884-01          | 4.592102-01                    | 74579696-01           |
| 6.200000=01                |                            | 1.784793-01           | 1:267248+00 | 64776909-01          | 4+372745-01                    | 74500043-01           |
| 6.000000-01                | 7:234526=01<br>7:145567-01 | 1.698947-01           | 1:254619+00 | 6+688524-01          | 4 4 1 6 2 4 2 2 - 0 1          | 74425299-01           |
| 5-800000-01                | 7.062791-01                | 1.616584-01           | 1.242765+00 | 6=606280-01          | 3 - 960632-01                  | 7-355143-01           |
| 5.600000=01                |                            | 1.597501-01           | 1.231635+00 | 60529750-Cl          | 3.766878-01                    | 7=289269=01           |
| 5.400000=01                | 6.985769-01                | 1.461498-01           | 1-221179+00 | 6+458541-01          | 3.580671-01                    | 7-227388-01           |
| 5 • 200000-01              | 6.914105-01                | 1.388380-01           | 1.211352+00 | 6:392286=01          | 3 40 15 32 - 01                | 7.169225-01           |
| 5.000000-01                | 6⊪847430=01<br>6⊕785407≈01 | 1.317959-01           | 1.202109+00 | 6.330643-01          | 3.229001-01                    | 7 114324-01           |
| 44800000=01                | 64727724 <b>-</b> 01       | 1.250055-01           | 1.193410+00 | 64273301-01          | 3+062636-01                    | 7-063042-01           |
| 44600000=01                | 64674096=01                | 1.184495-01           | 1.185217+00 | 6+219972-01          | 2+902014-01                    | 7.014552-01           |
| 44400000=01                | 6+624259-01                | 1.121116-01           | 1.177494+00 | 6-170390-01          | 24746734-01                    | 6+968844-01           |
| 4.200000-01                | 6.577977-01                | 1.059760-01           | 1.170207+00 | 6:124316=01          | 2:596414-01                    | 6.925716-01           |
| 4.000000=01                |                            | 1.000283-01           | 1.163325+00 | 6.0B1527=C1          | 2 • 45 0 6 9 3 - 0 1           | 6.884984=01           |
| 3.800000-01                | 6.535031=01                | 9+425440-02           | 1.156817+00 | 5 <b>•</b> 041822=01 | 2.309233-01                    | 6.846471-01           |
| 3.600000-01                | 6.495222-01                | 8 8 8 6 4 1 3 1 = 0 2 | 1:150656+00 | 6.005017-01          | 2:171723-01                    | 6.810009-01           |
| 34400000-01                | 6.458370-01                | 84317665=C2           | 1+144815+30 | 5:970946-C1          | 2:037826-C1                    | 64775438=01           |
| 34200000-01                | 6.424310-01                | 7.784878-02           | 1+199267+30 | 5+939457-01          | 1:907295-01                    | 64742604-01           |
| 3.000000-01                | 6.392893-01                | 7:264672=02           | 1.133988+00 | 5.910411-C1          | 1:779845-01                    | 6.711358-01           |
| 2 800000-01                | 6.363985-01                | 6.756011-02           | 1.128951+00 | 5.883685-Cl          | 1.655223-01                    | 6.681549=01           |
| 2.600000-01                | 6.337463-01                | 6.257915-02           | 1:124132+00 | 5 <b>-</b> 859164-01 | 1.533189-01                    | 5 4 6 5 3 0 2 6 = 0 1 |
| 2.400000-01                | 6.313217-01                | 5+769457-02           | 1.119503+00 | 5•836748-01          | 1+413517-01                    | 6+625632-01           |
| 2 • 2000000=01             | 6-291147-01                | 5-289757-02           | 1.115037+00 | 5-816343-01          | 14295991-01                    | 6.599198-01           |
|                            | 6 271163-01                | 4 817980-02           | 1:110701+00 | 5•797868=01          | 1+180405-01                    | 6.573537-01           |
| 2+0000000-01               | 6.253187=01                | 4.353330-02           | 1:106460+00 | 5.781249-01          | 1.066566-01                    | 6.548438=01           |
| 1.800000-01<br>1.600000-01 | 6.237146-01                | 3+895044=G2           | 1+102270+00 | 5.766418-01          | 9.542860-02                    | 6.523642-01           |
| · · · ·                    | 6.222977-01                | 3 • 442395-02         | 1.098078+00 | 5.753319-01          | 8-433870-02                    | 6.498827-01           |
| 1.400000-01                | 6.210624-01                | 2.994681-02           | 1.093810+00 | 5.741898-01          | 7+336971=02                    | 6.473568-01           |
| 1 • 200000-01              | 6 200037-01                | 2.551227-02           | 14089366+00 | 5.732110-01          | 6+250508-02                    | 6.447267-01           |
| 1:000000=01                | 6.191173-01                | 2-111378-02           | 1.084594+00 | 5.723915-01          | 5 • 172878-C2                  | 6.419028-01           |
| 8 0000000-02               | 6.183996=01                | 1.674500-02           | 1.079248+0C | 54717280-01          | 4+1C2525=02                    | 6.387385-01           |
| 6.0000000=02               | 6.178473-01                | 1.239972-02           | 1.072871+33 | 5.712173-C1          | 3.037932-02                    | 6+349643=01           |
| 4.000000-02                | 6.174575=01                | 8.071900-03           | 1.064461+30 | 5.708570=01          | 14977616-02                    | 6.299870-01           |
| 2.000000-02                | 6.172277-01                | 3.755605-03           | 1.050912+CC | 5.706445-C1          | 9:201234-03                    | 6.219682-01           |
|                            |                            |                       |             |                      |                                |                       |

| x                          | g                          | f                          | h                              | p/p <sub>R</sub>           | u/u <sub>R</sub>           | $\rho/\rho_{ m R}$         |
|----------------------------|----------------------------|----------------------------|--------------------------------|----------------------------|----------------------------|----------------------------|
|                            | 1-101562+00                | 5.078123=01                | 2.031745+00                    | 1.000000+00                | 1.000000+00                | 1.000000+00                |
| 1:000000+00                | 1.064801+00                | 4.900816-01                | 1.980124+00                    | 9.666279=01                | 9+650842-01                | 9.745928-01                |
| 9.800000-01                | 14029847+00                | 44726060=01                | 1.930579+00                    | 9.348969-01                | 9.3C4705=01                | 9.502070-01                |
| 9.6000000001               | 9.966487=01                | 4.554054-01                | 1.883077+00                    | 9+047592=01                | 8.967987-01                | 9.268275-01                |
| 9.400000=01                | 94651533=01                | 4-385001=01                | 1.837589+00                    | 8.761676=01                | 8+635082-01                | 9.044385-01                |
| 9.200000-01                | 94353091-01                | 44219098=01                | 1.794079+03                    | 8.490750=01                | 8.308381-01                | 84830238-01                |
| 9.000000=01                | 9-070644-01                | 4.056535=01                | 1.752514+00                    | 8.234345-01                | 7.988257-01                | 8.625658-01                |
| 8.800000-01<br>8.600000-01 | 84803671-01                | 3.897493-01                | 1.712855+00                    | 7.991986-01                | 7.675065-01                | 8.430461-01                |
| 84400000-01                | 8.551643-01                | 34742135=01                | 1.675061+00                    | 7.763194-01                | 7.369130-01                | 8.244446-01                |
| 8 4 200000-01              | 8.314025=01                | 3.590608-01                | 1.639089+00                    | 7+547485-01                | 7.070739-01                | 8.067396-01                |
| 8 200000-01                | 8+090275-01                | 3.443038-C1                | 1.604892+00                    | 7-944364-01                | 6.780139-01                | 7-899079=01                |
| 7 8000000-01               | 7.879840=01                | 3-299524-01                | 1.572417+00                    | 7+153330-01                | 6 497527-01                | 7.739241-01                |
| 7.600000-01<br>7.600000-01 | 7.682160-01                | 3-160140-01                | 1.541610+00                    | 64973876=01                | 6.223048-01                | 7.587616=01                |
| 7.400000-01                | 7.496671=01                | 3.024933-01                | 1.512414+00                    | 6-805489-01                | 5.956793-01                | 7.443917-01                |
| 7.200000-01                | 7.322804=01                | 2.893919=01                | 1.484748+00                    | 6+647552-01                | 5 • 698795-01              | 7:307846-01                |
| 7.000000-01                | 7.159990-01                | 2.767088-01                | 14458608+00                    | 6.499849=01                | 5.449036=01                | 7:179088-01                |
| 6.800000-01                | 7-007663-01                | 2+644403-01                | 1.433868+00                    | 6+361567-01                | 5 • 207441-01              | 7:057323-01                |
| 6.600000-01                | 6.865266=01                | 2-525802-01                | 1-410483+00                    | 6:232299-C1                | 4:97388 <del>9-</del> 01   | 6:942221-01                |
| 64400000-01                | 6.732250-01                | 2.411200-01                | 1.388383+00                    | 6.111547-01                | 4.748212-01                | 6.833449-01                |
| 6.200000-01                | 6.608080-01                | 2.300494-01                | 1.367501+00                    | 5.998825=01                | 4.530205-01                | 6.730673-01                |
| 640000000001               | 6.492240*01                | 2.193561-01                | 1.347770+00                    | 5.893665-01                | 4.319630-01                | 6+633560=01                |
| 5.800000-01                | 6.384232-01                | 2.090268-01                | 1.329123+00                    | 5.795615-01                | 4.116222-01                | 6.541780-01                |
| 5.600000-01                | 6.283580-01                | 1.990469=01                | 1.311494+00                    | 5.704243-01                | 3•919694-01                | 6.455011-01                |
| 5.400000=01                | 6.189832-01                | 1:894010-01                | 1,294819+00                    | 5:619138=01                | 3.729743-01                | 6.372939-01                |
| 5-200000-01                | 6.102559-01                | 1.800732-01                | 1,279036+00                    | 5:539912-01                | 34546059-01                | 6.295257-01                |
| 5.000000-01                | 6.021358-01                | 1.710475=01                | 1.264085+00                    | 5:466198-01                | 3+368321-01                | 6.221669-01                |
| 4.800000-01                | 5.945853-01                | 1.623074-01                | 1:249907+00                    | 5:397655=01                | 3.196209-01                | 6.151888-01                |
| 4.600000-01                | 5.875691-01                | 1:538369-01                | 1.236447+00                    | 5.333961-01                | 3 • 029404-01              | 6.085639-01                |
| 4+400000-01                | 5.610542-01                | 1.456198-01                | 1.223650+00                    | 5.274819 <b>-</b> 01       | 2.867590-01                | 6.022654-01                |
| 4.200000-01                | 5.750104-01                | 1:376404-01                | 1,211464+00                    | 5.219953-01                | 2.710457-01                | 5.962674-01                |
| 4#000000-01                | 5.694093=01                | 1:298B33=C1                | 1,199837+00                    | 5.169108-01                | 2.557703-01                | 5.905449-01                |
| 3.500000-01                | 5.642255-01                | 1.223337-01                | 1.186719+00                    | 5.122047-01                | 2 40 90 34 = 01            | 5.850730=01                |
| 3.600000=01                | 5.594345-01                | 1-149771-01                | 1.178062+00                    | 3.078555-01                | 2.264166-01                | 5.798277-01<br>5.747844-01 |
| 3.400000=01                | 5.550148-01                | 1.077997-01                | 1.167816+00                    | 54038432-01                | 2.122825-01                | 5.699186-01                |
| 3420000-01                 | 5.509461-01                | 1.007879-01                | 1.157929+00                    | 5.001497-01                | 14984746=01                | 5.652046-01                |
| 3.000000-01                | 5.472102=01                | 9.392690-02                | 1.148352+00                    | 4.967582-01                | 1.849677-01                | 5.404158-01                |
| 2 <b>.800000-01</b>        | 5.497904-01                | 8.721033-02                | 1.139028+00                    | 4.936537-01                | 1.717373-01<br>1.587600-01 | 5.561228=01                |
| 2.600000-01                | 5.406714-01                | 8.062026-02                | 1-129900+00                    | 4.908229-01                | 14460131=01                | 5.516934-01                |
| 2+400000-01                | 5.378394-01                | 7-414726-02                | 1.120901+00<br>1.111955+00     | 4:852514-01<br>4:859297-01 | 1+334752=01                | 5-472904-01                |
| 24200000-01                | 5.352819-01                | 64778033-02                |                                | 4.838470-01                | 1.211253-01                | 5.428694-01                |
| 2.000000-01                | 5.329876-01                | 6.150891-02                | 1.102972+00                    | 4.819939-01                | 1.089434-01                | 54383755-01                |
| 1.800000-01                | 5.309463-01                | 5.532280-02                | 1 ± 093842+00<br>1 ± 084420+00 | 4.803621-01                | 94691018=02                | 5.337382-01                |
| 1.600000-01                | 5.291488-01                | 4.921218=02                | 1.074513+00                    | 4.789442-01                | 8.500691=02                | 5.288621-01                |
| 1.400000-01                | 5.275869-01                | 4:316756~02                | 1.063844+00                    | 4.777333=01                | 7.321549-02                | 5.236110-01                |
| 1.200000-01                | 5,262531-01                | 3:717973=02<br>3:129977=02 | 1.051992+00                    | 4.767235-01                | 6.151834-02                | 5.177776-01                |
| 1.000000-01                | 5,251407=01                | 2.533902=02                | 1.038257+00                    | 41759093-01                | 4.989839-02                | 5.110175-01                |
| 84000000=02                | 5.242438=01                | 1.946904-02                | 1.021328+00                    | 4.752855-01                | 3.833904-02                | 5.026850=01                |
| 6.000000-02                | 5.235567=01<br>5.230739=01 | 1.362161=02                | 9-982173-01                    | 4.748472-01                | 2.682410-02                | 4.913103=01                |
| 4+000000-02                | 5 • 227895 <b>-</b> 01     | 7.788738-03                | 9.588779-01                    | 4.745891-01                | 14533783-02                | 4.719479-01                |
| 2 <b>.00000</b> 0=02       | 20171972-01                | ( # 100130-A3              | ABRORILY AW                    |                            |                            | · <del>-</del>             |

|                               |                            |  | H - 1.0                    |                      |                       |                     |
|-------------------------------|----------------------------|--|----------------------------|----------------------|-----------------------|---------------------|
| ×                             | g                          | Í  | h                          | p/p <sub>R</sub>     | u/u <sub>R</sub>      | $\rho/\rho_{ m R}$  |
| 1.000000+00                   | 1.115226+00                | 5.761317-01                                  | 2.359224+00                | 1+000000+00          | 1+000000+00           | 1.000000400         |
| 9.800000=01                   | 1.073119+00                | 5.574681-01                                  | 2.288095+00                | 9+622429-01          | 9-676053=01           | 9.498508-01         |
| 9.600000-01                   | 1.033141+00                | 5.390016-01                                  | 2.219917+00                | 94263959-01          | 9.355526-01           | 9.409523-01         |
| 9-400000-01                   | 9.952162-01                | 5-207493-01                                  | 2.154615+00                | 84923894-01          | 9.038720-01           | 9.132729=01         |
| 94200000-01                   | 9-592689-01                | 5.027292-01                                  | 2.092117+00                | 84601562=01          | 84725942=01           | 8.867818-01         |
| 94000000-01                   | 9.252263-01                | 4.849592=01                                  | 2-032350+00                | 8.296310-01          | 8-417505-01           | 84614487=01         |
| 8.800000=01                   | 8.930179=01                | 4.674575=01                                  | 1-975244+00                | 8-007504=01          | 8 113725-01           | 8:372434=01         |
| 8 4 6 0 0 0 0 0 0 1           | 8:625749-01                | 4.502419=01                                  | 14920729+00                | 7.734528-01          | 7.814912-01           | 84141359-01         |
| B.400960=01                   | 8.338298-01                | 4.333300=01                                  | 1.868731+00                | 7.476777-01          | 7.521370-01           | 7.920958-01         |
| 8.200000-01                   | 8.067166-01                | 4.167384-01                                  | 14819180+00                | 7-233658-01          | 7.233388-01           | 7.710926-01         |
| 6.000000-01                   | 7.811702-01                | 4.004528-01                                  | 1.772001+00                | 7.004589-01          | 6+951237=01           | 7.510951-01         |
| 74860000=01                   | 7.571261-01                | 3.845774=01                                  | 1.727120+00                | 64788990=01          | 6 6 6 7 5 1 6 5 = 0 1 | 74320713=01         |
| 74600000-01                   | 7.345207-01                | 3.690347-01                                  | 1.684459+00                | 6:586299-01          | 6.405388-01           | 7.139888=01         |
| 74400000-01                   | 7.132910-01                | 3.538654-01                                  | 1.643940+00                | 6.395931-01          | 6:142091=01           | 6.968141-01         |
| 7#200000-01                   | 6.933746-01                | 3.390778-01                                  | 1.605482+00                | 6.217344-01          | 5.885421-01           | 6.805127-01         |
| 74000000-01                   | 6.747096-01                | 3-246780-01                                  | 1.569001+00                | 6.049979-01          | 5 635481-01           | 6.650496=01         |
| 6+800000=01                   | 6.572351-01                | 3:106697=01                                  | 1-594419+00                | 5-893229-01          | 5.392338=D1           | 6.503890=01         |
| 6+600000=01                   | 6.408910-01                | 2:970541=01                                  | 1.501632+00                | 54746735-01          | 5.156011-01           | 6.364943-01         |
| 6440 <del>0000</del> -01      | 6.256183-01                | 2 0838301-01                                 | 1.470572+00                | 5-609788-01          | 4.926479-01           | 6.233287-01         |
| 6.200000-01                   | 6.113596-01                | 2.709940-01                                  | 1.441143+00                | 5.481933-01          | 44703682=01           | 6.108549-01         |
| 6 <b>+00000</b> 00-01         | 5.980587-01                | 2.585402-01                                  | 1.413259+00                | 5-362666-01          | 4.487519-01           | 54990358-01         |
| 5 <b>.</b> 80 <b>00</b> 00-01 | 5.856613-01                | 2 • 464608-01                                | 1.386833+00                | 5.251502-01          | 4.277855-01           | 5.878343-01         |
| 51600000-01                   | 5.741153-01                | 2:347464=01                                  | 1.351776+00                | 5.147971-01          | 4 = 074526=01         | 5.772137-01         |
| 5+4 <b>00000-</b> 01          | 5.633705-01                | 2 <b>- 233859-01</b>                         | 1.338004+00                | 5.051625-01          | 3 • 877340-01         | 5+671374-01         |
| 5 • 200000-01                 | 5 <b>+533790=01</b>        | 2:123669-01                                  | 1.315432+00                | 4-952034-01          | 3+586082=01           | 5.575698-01         |
| 5 <b>+000000=</b> 01          | 5e440955=01                | 2:016760=01                                  | 1:293977+00                | 4.878790-01          | 3.500519=01           | 5.484758-01         |
| 4 • 8 0 0 0 0 0 0 1           | 5.354770-01                | 1.912990-01                                  | 1.273558+0C                | 4-801510-01          | 3+320404-01           | 5.398209-01         |
| 44600000-01                   | 5.274830=01                | 1:812211-01                                  | 1:254096+00                | 4.729830-01          | 3:145480=01           | 5-315716-01         |
| 44400000-01                   | 5.200757-01                | 1.714271=01                                  | 1.235513+00                | 4.663409-01          | 2 • 975484=01         | 5+236948-01         |
| 4+200000-01                   | 5.192195-01                | 1+619015=01                                  | 1.217733+00                | 4+601932-01          | 2.810147-01           | 5.161582-01         |
| 4.000000-01                   | 5.068815-01                | 1.526289-01                                  | 1.200679+00                | 4.545100=01          | 2.549201-01           | 9.089298-01         |
| 3.800000-01                   | 3.010311-01                | 1.435937-01                                  | 1.184278+00                | 4.492641-01          | 2:492376=01           | 5.019779-01         |
| 3 600000-01                   | 4.956398-01                | 1-347807-01                                  | 1.168454+00                | 4 <b>:44</b> 4298-01 | 2:339408-01           | 4.952707-01         |
| 34400000-01                   | 4.906815-01                | 1.261749-01                                  | 1.153132+00                | 4 <b>:399838</b> =01 | 2-190036-01           | 4.887760=01         |
| 3.200000-01                   | 4.861321-01                | 1.177615-01                                  | 1.138233+00                | 4:359044-01          | 2.044003-01           | 4:824608-01         |
| 3.0000000-01                  | 4.819693-01                | 1-095261-01                                  | 1.129676+00                | 4.321718-01          | 1+901059=01           | 4.762904-01         |
| 2 4 8 0 0 0 0 0 0 0 1         | 4.781729-01                | 1.014546-01                                  | 1.109373+00                | 4:287676=01          | 1.760962=01           | 4.702280-01         |
| 2.600000=01                   | 4.747243-01                | 9.353355-02                                  | 1.095230+00                | 4.256753-01          | 1 6623475-01          | 40642333=01         |
| 2.400000-01                   | 4.716065-01                | 8.574962-02                                  | 1.081140+60                | 4.228796-01          | 1•488368-01           | 4.582611-01         |
| 2 • 208000-01                 | 4.688038-01                | 7-809002-02                                  | 1.066981+00                | 4:203665-01          | 1.355419-01           | 4.522595-01         |
| 2 • 000 <del>000</del> 0 = 01 | 4.663022-01                | 7+054234-02                                  | 1.052607+00                | 4.181234-01          | 1:224413-01           | 4:461665-01         |
| 1.800000-01<br>1.600000-01    | 4.649888-01                | 6+309457-02                                  | 1.037637+00                | 4-161386-01          | 1.095141-01           | 4.399060~01         |
| 1.400000-01                   | 4.621517-01                | 5.573508=02                                  | 1.022441+00                | 4:144017-01          | 9 674017-02           | <b>44333803-</b> 01 |
| 1.400000-01                   | 44604801-01                | 4.845259=02                                  | 1.006113+00                | 4+129028-01          | 8 409985-02           | 4.264592-01         |
| 1.000000=01                   | 4.590641=01                | 4-123619-02                                  | 9.884208-01                | 4-116332-01          | 7 • 157424-02         | 4.189602-01         |
| 8.000000-02                   | 4.578945-01                | 3-407530-02                                  | 9.687237-01                | 4-105843-01          | 5 • 914498-02         | 44106113-01         |
| 6.000000-02                   | 4.569623~01<br>4.562588~01 | 2+695966=02                                  | 94459879-01                | 4:097485-01          | 4.679427-02           | 4.009742-01         |
| 4.000000-02                   | 4.557750-01                | 1+987937 <b>-</b> 02<br>1+282485 <b>-</b> 02 | 9-183585-01                | 4=091177-01          | 3 4 4 5 0 4 9 0 - 0 2 | 3-892630-01         |
| 24000000-02                   | 4.355001-01                | 54786931-03                                  | 8.818993-01<br>8.251762-01 | 4:086839-01          | 2+226027=02           | 3 - 738091 - 01     |
|                               | .4ANT RT                   | 5610033T-63                                  | ASTATION-OF                | 4.084373-01          | 1.004446=02           | 3:497660=01         |
|                               |                            |  |                            |                      |                       |                     |

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| x   | E  | f  | h                          | p/p <sub>R</sub>           | u/u <sub>R</sub>           | $\rho/\rho_{\mathbf{R}}$   |
|---|--|--|----------------------------|----------------------------|----------------------------|----------------------------|
|   |  | 6.250001-01                                  | 2.666658+00                | 1.000000+00                | 1.000000+00                | 1+000000+00                |
| 1.0000000+00  | 1.125000+00  |  | 2.573483+00                | 94585106-01                | 94691435-01                | 94650559-01                |
| 9.880000-01   | 1.078324+00  | 6.057148-01                                  | 2.484518+00                | 94192559-01                | 9.385645-01                | 9.316939-01                |
| 9.600000-01   | 1.034163+00  | 5.866029 <b>~</b> 01<br>5.676802 <b>~</b> 01 | 2.399624+00                | 8.821386-01                | 9.082882=01                | 8.999586=01                |
| 9.400000-01   | 9.924059-01  |  | 2.318658+00                | 8.470654-01                | 8.783410-01                | 8.694963-01                |
| 9 200000-01   | 9.529486-01  | 5.489633 <b>-</b> 01<br>5.304689-01          | 2.241482+00                | 8-139475-01                | 8.487501-01                | 8.405553=01                |
| 9+000000-01   | 9:156910-01  | 5.122144-01                                  | 2.167961+00                | 7.826995-01                | 8-195429-01                | 8.129850-01                |
| 84800000-01   | 8.805370-01  | 44942170=01                                  | 2.097965+00                | 7.532395-01                | 7.907470-01                | 7.867365-01                |
| 8.600000-01   | 8.473945-01  | 4.764937-01                                  | 2.031365+00                | 7.254887=01                | 7-623898=01                | 7.617636-01                |
| 8.400000-01   | 8.161748-01  | 44590614-01                                  | 1.968035+00                | 64993710-01                | 7:344981-01                | 7.380130-01                |
| 8.200000-01   | 7.867923-01  | 4.419361-01                                  | 14907851+00                | 6.748126-01                | 7:070975-01                | 7:154441-01                |
| 8.000000-01   | 7 <sub>0</sub> 591642-01<br>7 <sub>0</sub> 332101-01 | 4.251327=01                                  | 1.850490+00                | 6.517423=01                | 5.802122=01                | 6.940086-01                |
| 7.800000-01   | 7.088520-01  | 4.086652-01                                  | 1.796429+00                | 6.300906-01                | 6.538642-01                | 6.736607-01                |
| 7.600000-01   | 6.860137 <b>~</b> 01                                 | 3+925458=01                                  | 14744947+00                | 64097900-01                | 6.280731-01                | 6.543548=01                |
| 7:40 <del>0000</del> -01<br>7:2 <del>0000</del> -01 | 6.646214-01  | 3.767850-01                                  | 1.696121+00                | 5.907746-01                | 6.028558-01                | 6.360451=01                |
| 7.000000-01<br>7.000000-01                          | 6446028-01   | 3-613913-01                                  | 1.649830+00                | 5.729803-01                | 5.782260-01                | 6.186861=C1                |
| 6.800000-01   | 6.258876-01  | 3.463712-01                                  | 1.605954+00                | 5.563446-01                | 5.541939=01                | 6.022324-01                |
| 6.600000-01   | 6.084075-01  | 3.317288-01                                  | 1.564370+00                | 5.408066-01                | 5.307659-01                | 5.866386-01                |
| 6.400000-01   | 5.920958-01  | 3.174658-01                                  | 1.524959+00                | 5+263074-01                | 5.079452=01                | 5.718595-01                |
| 64200000-01   | 5.768883-01  | 3.035817-01                                  | 1.487601+00                | 5-127896-01                | 4#857307=01                | 5.578502-01                |
| 6.000000-01   | 5.627226=01  | 2.900739-01                                  | 1.452177+00                | 5.001979-01                | 4.641181-01                | 5.445663-01                |
| 5.800000-01   | 5.495387=01  | 2.769373-01                                  | 1.418570+00                | 4.884789-01                | 4:430997-01                | 5.319637-01                |
| 5+600000-01   | 5-372791-01  | 2 641653-01                                  | 1.386664+00                | 4:775814-01                | 4.226643-01                | 5-199989-01                |
| 5.400000-01   | 5.258886-01  | 2.517489-01                                  | 1.356345+00                | 4:674566-01                | 4 027982-01                | 5.086293-01                |
| 5-200000-01   | 5-153149-01  | 2.396782-01                                  | 1.327502+00                | 4:580577-01                | 3 834850-01                | 4.978129-01                |
| 5.000000-01   | 5.055082-01  | 2.279414-01                                  | 1.300024+00                | 4:493406-01                | 3.647061-01                | 4.075087-01                |
| 4.800000-01   | 44964213=01  | 2.165258-01                                  | 1.273804+00                | 4.412634-01                | 3.454412-01                | 4.776763-01                |
| 4.600000-01   | 44880101-01  | 2.054178-01                                  | 1:248737+00                | 4 <b>•337867=</b> 01       | 3.286683-01                | 4.682763-01                |
| 4-400000-01   | 4.802329-01  | 1.946029-01                                  | 1.224720+00                | 4:268737-01                | 3:113646-01                | 4.592697-Cl                |
| 44200000-01   | 4.730509-01  | 1.840665-01                                  | 1.201649+00                | 4.204897-01                | 2.945063-01                | 4.506183-01                |
| 4-000000-01   | 4.664278-01  | 1.737932-01                                  | 1.179425+00                | 4.146025-01                | 2.780690-01                | 4-422841-01                |
| 3.800000-01   | 4.609300-01  | 1.637677-01                                  | 1.157945+00                | 4.091822-01                | 2.620282-01                | 4.342293-01                |
| 3.600000-01   | 4.547262-01  | 1.539745-01                                  | 1.137109+00                | 4.042011-01                | 2.463591-01                | 4.264157-01                |
| 3.400000-01   | 4#495875=01  | 1:443982-01                                  | 1+116812+00                | 34996334-01                | 2.310371-01                | 4.188044-01                |
| 3.200000-01   | 4-448873-01  | 1:350237-01                                  | 1.096947+00                | 3.954554-01                | 2 • 160379-01              | 4:113550=01<br>4:040252=01 |
| 3+000000-01   | 4.406010-01  | 1.258359-01                                  | 1.077401+00                | 3.916454-01                | 2.013374-01                | 3.967693-01                |
| 2.800000-01   | 4.367061=01  | 1.168201-01                                  | 1.058052+00                | 3.881832-01                | 1.869122-01                | 3 n n 9 5 3 7 3 - 0 1      |
| 2.600000-01   | 4.331816-01  | 1.079619-01                                  | 1.039767+00                | 3.850503-01                | 1.727391-01                | 3 • 822727-01              |
| 2.400000-01   | 4.300087-01  | 9.924725-02                                  | 1.019394+00                | 3.822299-01                | 1.587956-01<br>1.450598-01 | 3.749101-01                |
| 2.200000-01   | 4 <b>a</b> 271697 <b>=</b> 01                        | 9:066239-02                                  | 9.997606-01                | 3+797064-01                | 14315104=01                | 3.673714-01                |
| 2.000000-01   | 4.246486-01  | 8.219403-02                                  | 9.796574-01                | 3•774654-01<br>3•754938-01 | 1.181268-01                | 3.595599-01                |
| 1.800000-01   | 4.224305-01  | 7+382925=02                                  | 9,588268-01                | 3.737799=01                | 1.048888-01                | 3.513519-01                |
| 1.600000-01   | 4.205017-01  | 6.555551-02                                  | 9:369387=01                | 3.723106=01                | 9 177797=02                | 3.425817-01                |
| 1.400000-01   | 4.188494-01  | 5+736068 <del>-</del> 02                     | 9-135516-01                | 3.723108-01                | 7.877281-02                | 3.330168-01                |
| 1,200000-01   | 4.174615-01  | 4.923302=02                                  | 8.880450-01<br>8.594911-01 | 34700679-01                | 6.585789-02                | 3.223091-01                |
| 1.000000-01   | 4,163264-01  | 4-116119-02                                  | 8.263867-01                | 3.692735-01                | 5.301485-02                | 3-098949-01                |
| B.000000-02   | 4.154327-01  | 3.313429-02                                  | 7.860006=01                | 3.686832-01                | 4.022693-02                | 2.947501-01                |
| 6.000000-02   | 4.147686-01  | 2.514184=02                                  | 7.323772=G1                | 34682856-01                | 2.747819-02                | 2.746414-01                |
| 4+000000-02   | 4.143213-01  | 1.717988-02                                  | 6.468824=01                | 3.680569-01                | 1.475366-02                | 2.425808-01                |
| 2.000000-02   | 4.140752-01  | 9•221040=03                                  | 794000t4-01                | 2400-207-41                |                            | <del>-</del>               |

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| x                          | к                          | ſ                          | h                          | p∕p <sub>a</sub>           | u/u <sub>R</sub>           | $\rho/\rho_{\rm R}$        |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1+000000+00                | 1:137731+00                | 6+886574=01                | 3-211896+00                | 1#000000+00                | 1+000000+00                |                            |
| 9.800000-01                | 14082911+00                | 64683307-01                | 3.066781+00                | 9.518163-01                |                            | 1+0000000+00               |
| 9.600000-01                | 1.031510+00                | 6.481622=01                | 2.929825+00                | 9.066376-01                | 9.704829-01                | 9a543195=01                |
| 9.400000=01                | 9.833313-01                | 6.281686-01                | 2.800586+00                | 8.642913-01                | 9•411969-01<br>9•121642-01 | 9+121794=01                |
| 94200000-01                | 94381704-01                | 6+083655=01                | 2.678644+00                | 8 • 246150-01              | 8.834081-01                | 8+719416=01                |
| 9.000000-01                | 84959141-01                | 5-887692-01                | 2.563505+00                | 7 874566-01                | 8.549523-01                | Be337760-01                |
| 8 - 800000-01              | 8.563399-01                | 5+697967-01                | 2.455094+00                | 7.526732-01                | 9#268214-01                | 7a781574-01<br>7a643754-01 |
| 6.600000-01                | 8-193146-01                | 5.502649-01                | 2+352757+00                | 7.201301-01                | 7.790401-01                | 7.325134-01                |
| 8.400000-01                | 7.846939-01                | 5.31390R=01                | 2.256257+00                | 6.897005-C1                | 7.716331-01                | 7.024694=01                |
| B <sub>+</sub> 200000-01   | 7.523415-01                | 5-127913-01                | 2.165272+00                | 6+612546-01                | 7-446247-01                | 6.741416=01                |
| 8+0000000-01               | 7.221287-01                | 4.944874-01                | 2.079499+00                | 6.347073-01                | 7 • 180 384 = 01           | 4.474365 <b>40</b> 1       |
| 7.800000-01                | 6.939333-01                | 4 # 76479R=01              | 1.998643+00                | 6.099272-01                | 6.918967-01                | 6.227626-01                |
| 7#600000-01                | 6.676397-01                | 4.587977-01                | 1.922424+00                | 5+868166=01                | 6.462705-01                | 5.984975-01                |
| 7:400000=01                | 6.431377-01                | 4.414492=01                | 1.850575+00                | 5+652808-01                | 6+410287=01                | 5.761627-01                |
| 7.200000=01                | 6 a 203228=01              | 4 • 244457-D1              | 1.707835+00                | 5+452278=01                | 6 • 1633RO-01              | 5.550725-01                |
| 7 <b>.0000</b> 00-01       | 5,990953~01                | 4.077969-01                | 1.718957+00                | 5.265701-01                | 54721622-01                | 5.351446-01                |
| 6#800000=01                | 5.793603-01                | 3.915103-01                | 1.658701+00                | 5.092242~01                | 5 4 6 8 5 1 7 5 + 0 1      | 5-164241-01                |
| 6+600000-01                | 5.610775-01                | 3.754915-01                | 1:60]R34+00                | 4.731106-01                | 5+453967-01                | 4.987197-01                |
| 6.40000D-01                | 5.440107-01                | 3 • 6 0 0 4 3 4 = 0 1      | 1.548135+00                | 4:781539-01                | 5+228194-01                | 4.820003=01                |
| 6.200000-01                | 5.287787-01                | 3 • 4 4 8 6 7 2 - 0 1      | 1.497388+00                | 4.642A20~01                | 5.007814-01                | 4.66/206-01                |
| 6.000000-01                | 5.136023-01                | 3.300617-01                | 1.449385+00                | 4.514267-01                | 4.792822 <del>-</del> 01   | 4-512553-01                |
| 5.800000-01                | 5+000592-01                | 3:156220-01                | 1:403928+00                | 4-395231-01                | 4.583150-01                | 4-371925-01                |
| 5+600000-01                | 4.875794-01                | 3:015439-01                | 1.360872+00                | 4 - 285101-01              | 44378721-01                | 4.236/19-01                |
| 5+400000-01                | 4.759470-01                | 2 • 8 7 8 1 9 2 = 0 1      | 1:319564+00                | 4+103298-01                | 4:179424-01                | 4-109360-01                |
| 54200000-01                | 4.652500-01                | 2 • 7 • 4 3 6 5 - 0 1      | 1.280934+00                | 4.0B9278-01                | 3.785124-01                | 3.988093-01                |
| 5.000000-01                | 4.553804-01                | 2.613911-01                | 1:243800+00                | 44002530-01                | 3.795663-01                | 3.872481=01                |
| 4.800000-01                | 4.462836-01                | 2 • 486644-01              | 1.208318+00                | 3 • 922574-01              | 3 4 6 1 0 8 6 3 - 6 1      | 3.767078-01                |
| 4 • 600000-01              | 4.379088-01                | 2:362461-01                | 1-174326+00                | 3-848965-01                | 3-430537-01                | 3:656176-01                |
| 4-400000-01                | 4.302085-01                | 7-241210-01                | 1-141668+00                | 3.781284-01                | 3+254463-01                | 3:5545C0=01                |
| 4a200000-01<br>4a000000-01 | 4.231387-01                | 2 • 12/746-01              | 1.110195+00                | 3.719144-01                | 3.082441 <del>-</del> 01   | 3.446509-01                |
| 3.800000-01                | 4-166584-01                | 2.006915-01                | 1.079757+00                | 3.662186-01                | 2.914247-01                | 3.361747-01                |
| 3.600000-01                | 4:107298-01<br>4:053178-01 | 1-893560-01                | 1-050208+00                | 3.610077-01                | 2.749641-01                | 3.267744-01                |
| 3.400000-01                | 4.003900-01                | 1+782525=01<br>1+67364n=01 | 1.021402+00                | 3 • 562508-01              | 2.500405-01                | 3-140059-01                |
| 3.200000-01                | 3.959166-01                | 1.566773=01                | 7-731919-01                | 3-519196-01                | 2-430306-01                | 3 - 092230-01              |
| 34000000-01                | 3.918701-01                | 1.461747-01                | 9:654276=01<br>9:379523=01 | 3.479878-01                | 2 • 275 112-01             | 3.005788-01                |
| 2 800000-01                | 3.887249-01                | 1.358403=01                | 9.106000-01                | 3 • 4 • 4 • 3 1 1 - 0 1    | 2 • 122597-01              | 2.920745-01                |
| 2+600000-01                | 3-849577-01                | 1.256603-01                | 8 • 831911-01              | 3 • 4 1 2 2 7 2 - 0 1      | 1+772537-01                | 2 835006-01                |
| 2-400000-01                | 3.820465-01                | 1.156195=01                | 8 4 5 5 5 2 6 4 - 0 1      | 3+383555-01<br>3+357968-01 | 1 - 824714-01              | 2.749750-01                |
| 2.200000-01                | 3-794713-01                | 1.057037-01                | 8-273793-01                | 3+335433=01                | 1.678717-01                | 2-663618-01                |
| 2.000000-01                | 3+772131-01                | 9.589887-02                | 74984842-01                | 3+315+85=01                | 1+574974-01                | 2.575984-01                |
| 1.800000-01                | 3-752542-01                | 8-619162-02                | 7.685201-01                | 3.298267-01                | 1.392548=01<br>1.251589-01 | 2.486022=01                |
| 1.600000-01                | 3.735779-01                | 7.656898-02                | 7.370247-01                | 3.283533-01                | 14111859-01                | 2.372731=01                |
| 1-400000-01                | 3.721679-01                | 6.701855-02                | 7.036531-01                | 3.271140=01                | 94731770~02                | 2-294859-01                |
| 1 = 200000-01              | 3.710065-01                | 54752845-02                | 6+675968-01                | 3+260950=01                | 90/31/70-02<br>00°33711-02 | 2:170772-01                |
| 1.000000-01                | 3.700841-01                | 4.808739-02                | 6.276024-01                | 3.252825=01                | 6.982775-02                | 2+078733-01<br>1+953994-01 |
| 8.000000-02                | 3-693786-01                | 3 8 8 6 8 4 7 4 - 0 2      | 5-623022-01                | 3.246624-01                | 5.617414-02                | 1.955994-01                |
| 4.000000-02                | 3.688748-01                | 2.931055-02                | 5.207386-01                | 3.242195-01                | 4.256147-02                | 1481/455-01                |
| 4.000000-02                | 3.685533-01                | 1.995570-02                | 4.609377-01                | 3 239370-C1                | 2 897769-02                | 1.435095-01                |
| 2.000000-02                | 3.683908-01                | 1.061705-02                | 3.613848-01                | 3.237942-01                | 1.540977-02                | 1-125145-01                |

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| m = 3.0                                    |                            |   |                            |                            |                            |                            |  |
|--|----------------------------|---|----------------------------|----------------------------|----------------------------|----------------------------|--|
| ×  | g                          | f   | h                          | p/p <sub>R</sub>           | u/u <sub>R</sub>           | $ ho/ ho_{ m R}$           |  |
|  | _                          |   | 4 367417486                | 1.000000+00                | 1.000000+00                | 1.000000400                |  |
| 1.000000+00                                | 14148148+00                | 7.407407-01   | 34857142+00                | 94437688-01                | 9.710002-01                | 9.395962-01                |  |
| 9.800000-01                                | 1.083586+00                | 7.192594-01   | 3,624156+00                | 8.918269=01                | 9.422414-01                | 84837377-01                |  |
| 9.600000-01                                | 1.023949+00                | 6.979566-01   | 3.408702+00                | R=438421=01                | 9-137465-01                | 8.320532-01                |  |
| 9.400000=01                                | 9.688357-01                | 6.768493-01   | 3,209348+00                | 7.995106-01                | 84855392-01                | 7.842043-01                |  |
| 9-200000-01                                | 9:179568-01                | 6.559549-01   | 3.024788+00                | 7.585554=01                | 8.576433-01                | 7.398817-01                |  |
| 94000000-01                                | 8.709339-01                | 6.352913-01   | 2.853829+00<br>2.695381+00 | 7.207215-01                | 8-300831-01                | 6.988026=01                |  |
| 8.800000-01                                | 8,274990-01                | 6.148763-01   | 2.548444+00                | 6.857756-01                | 8.028824-01                | 6.607078-01                |  |
| 8.600000-01                                | 7.673720-01                | 5.947277=01   | 2,412101+00                | 6.535034=01                | 7.760648-01                | 6.253595-01                |  |
| 8.400600=01                                | 7,503186-01                | 5.748628-01   | 2.285508+00                | 6.237071=01                | 7.496528-01                | 5.925391-01                |  |
| 8,200000-01                                | 7.161081-01                | 5-552984-01   | 2 167886+00                | 5.962047-01                | 7.236676-01                | 5.620452 <sup>3</sup> 01   |  |
| 84000000-01                                | 6.845313-01                | 5.360501-01   | 2.058527+00                | 5.708279-01                | 6.981288-01                | 5.3369ZZ-01                |  |
| 7.800000-01                                | 6.553950-01                | 5-171324-01   | 1.936761+00                | 5.474209-01                | 6.730537-01                | 5.073084-01                |  |
| 7 600000-01                                | 6.285203-01                | 4.985583-01   | 1.861978+00                | 5.258396=01                | 6.484574-01                | 4:827351-01                |  |
| 7 <b>:400<del>0</del>00</b> 00 <b>-</b> 01 | 6.037418-01                | 4.803388-01   | 1.773612+00                | 5.059501-01                | 6.243520-01                | 4:598254-01                |  |
| 7.206000-01                                | 5.809057-01                | 4#624829 <b>-</b> 01<br>4#449 <b>9</b> 75 <b>-</b> 01 | 1.691136+00                | 4.876284-01                | 6.007467-01                | 4.384427-01                |  |
| 7,000000-01                                | 5.598696-01                |   | 1.614062+00                | 4.707589-01                | 5.776475-01                | 4.184606-01                |  |
| 6.800000-01                                | 5+405009-01                | 4.278871-01   | 1,541937+00                | 4.552346-01                | 5.550575-01                | 3,997615-01                |  |
| 64680000-01                                | 5.226767-01                | 4:111535~01<br>3:947966~01                            | 1.474339+00                | 4.409559-01                | 5+329754-01                | 3+822361-01                |  |
| 6.400000-01                                | 5.062827-01                | 34788135-01   | 1.410877+00                | 4-278304-01                | 5.119982-01                | 3.657829-01                |  |
| 6.200000-01                                | 4,912127-01                | 3.631992-01   | 14351165+00                | 4.157724-01                | 4.903189-01                | 3.503073-01                |  |
| 64000000-01                                | 4,773683-01                | 34479465=01   | 1.294925+00                | 4.047029-01                | 4.697278-01                | 3.357214-01                |  |
| 5.800000-01                                | 4.646582-01                | 3.330464-01   | 1.241782+00                | 34945465-01                | 4.496126=01                | 3.219436-01                |  |
| 5.400000-01                                | 4.529979-01                | 3.184660-01   | 1-191462+00                | 3-852370-01                | 4.299588-01                | 3.088976-01                |  |
| 5.400000-01                                | 4.423091-01                | 3.042591-01   | 1.143691+00                | 3-767108-01                | 4.107498-01                | 2.965125-01                |  |
| 5.200000-01                                | 4,325198-01                | 2.903462-01   | 1.098213+00                | 3+689099-01                | 3.919674-01                | 2.847219=01                |  |
| 5.000000-01                                | 4,235632-01                | 2.767347-01   | 1.054790+00                | 3.617807-01                | 3.735919-01                | 2.734640-01                |  |
| 4.800000-01                                | 4.153779=01<br>4.079074=01 | 2.634093=01   | 1.013197+00                | 3.552742-01                | 34556026-01                | 2.626808-01                |  |
| 4.608000-01                                | 4±010998=01                | 2.503541-01   | 9.732251-01                | 3.493450-01                | 3.379780-01                | 2.523177-01                |  |
| 4.400000-01                                | 3.949071-01                | 2.375527-01   | 9.346747-01                | 3:439514-01                | 3+208962-01                | 2.423231-01                |  |
| 4.200000-01<br>4.000000-01                 | 3-892855-01                | 2.249887-01   | 84973574-01                | 3.390551-01                | 3,037348-01                | 2.326482=01                |  |
|  | 3.841944-01                | 2-126455-01   | 84610930-01                | 3.346210-01                | 2.870715-01                | 2.232464-D1                |  |
| 3:800000-01<br>3:600000-01                 | 3.795969-01                | 2,005067-01   | 8.257083-01                | 3.306167-01                | 2.706841-01                | 2.140725-01                |  |
| 3.400000-01                                | 3.754586-01                | 1.885559-01   | 7.910346-01                | 3.270125-01                | 2,545505-01                | 2.050831-01<br>1.962350-01 |  |
| 3.200000-01                                | 3.717480-01                | 1.767772-01   | 7,569062=01                | 9.237805-01                | 2.386493-01                |                            |  |
| 3.000000001                                | 3.684359-01                | 1.651550-01   | 7.231581-01                | 3.208958-01                | 2.229593-01                | 1.874855=01<br>1.787912=01 |  |
| 2.800000-01                                | 3-654952-01                | 1.536741-01   | 6.896231-01                | 3.183345-01                | Z.074601-01                | 1.701076=01                |  |
| 2.600000-01                                | 3.629008-01                | 1.423200-01   | 6.561291-01                | 3.160749-01                | 1.921320-01                | 1.613876-01                |  |
| 2.400000=01                                | 3.606290-01                | 1.310784-01   | 6.124950-01                | 3-140962-01                | 1.769559-01                | 1.525806-01                |  |
| 2.200000-01                                | 3,586576-01                | 1.199360=01   | 5.885258-01                | 3.123792-01                | 1.619136~01                | 1.436312=01                |  |
| 2.006000-01                                | 34569656-01                | 1.086796-01   | 5.540060-01                | 3-109055-01                | 1.469877-01<br>1.321619-01 | 1.944752-01                |  |
| 1.800000=01                                | 34555328-01                | 9:789772-02   | 5.186900-01                | 3.096576-01                | 1.174207-01                | 1.250377-01                |  |
| 1,600000-01                                | 3.543395-01                | 8•697826~02   | 4.822882-01                | 3.086183-01                |                            | 1-152266-01                |  |
| 14400000=01                                | 3.533668-01                | 7.611065-02   | 4,444453-01                | 3.077711-01                | 1.027494=01<br>8.813467=02 | 1.049235=01                |  |
| 1.200000-01                                | 3.525955-01                | 6.528494-02   | 4,047048-01                | 3.070999=01                | 7.256415-02                | 9.396713-02                |  |
| 1.000000-01                                | 3.520064-01                | 5.449196-02   | 3.624446=01                | 3,065863-01                | 5.902664=02                | 8-212111-02                |  |
| 8.000060=02                                | 3 <b>4515798</b> 001       | 4.372344-02   | 3-167536-01                | 3:062147-01                | 4.451224-02                | 64900290 <del>-</del> 02   |  |
| 64000000-02                                | 3,512946-01                | 3.297203-02   | 2.661540-01                | 3:059663-01<br>3:058214-01 | 3.001241-02                | 5.388570-02                |  |
| 44000000002                                | 3.511282-01                | 2.223142-02   | 2.078448-01                | 34057572-01                | 1.552022-02                | 3.492118-02                |  |
| 2400000-02                                 | 3.510546-01                | 1.149646-02   | 1.346960-01                | 24021212-01                |                            |                            |  |

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| x   | g                          | Í   | h  | p/p <sub>R</sub>                               | u/u <sub>R</sub>           | p∕p <sub>R</sub>              |
|---|----------------------------|---|--|--|----------------------------|-------------------------------|
| 1.000000+00                                   | 1.153061+00                | 7-659062=01                                 | 4.260670+00  | 1.000000+00                                    | 1.000000+00                | 1+000000+00                   |
| 9.800000-01                                   | 1.082301+00                | 7.481219-01                                 | 3.955001+00  | 9.384128-01                                    | 9.710118-01                | 9-282144-01                   |
| 9.608000-01                                   | 14017696+00                | 7-211451-01                                 | 3.676707+00  | 6.626035-01                                    | 9+422962=01                | 8.629004-01                   |
| 9-400000-01                                   | 9+506781-01                | 64993964-01                                 | 3.423152+00  | 8+314200-01                                    | 9.138760-01                | 8+033998-01                   |
| 9 <b>a209600-</b> 01                          | 9:047401-01                | 6:778944-01                                 | 3.191934+00  | 7:846419 <b>-</b> 01                           | 8.857820-01                | 7-491274-01                   |
| 9.000000-01                                   | 8.554261-01                | 6+566581-01                                 | 2.980746+00  | 7+418740-01                                    | 8.580332-01                | 6 <b>.9</b> 95626 <b>~</b> 01 |
| 8 a 8 D B D B D B D B D B D B D B D B D B D   | 8.103262-01                | 6.357062~01                                 | 2.787696+00  | 7:027608-01                                    | 8.306961-01                | 64542411-01                   |
| B.600000-01                                   | 7.690712-01                | 6.150569-01                                 | 2.610838+00  | 6+669821-01                                    | 8.036744-01                | 6.127477-01                   |
| 8.400000-01                                   | 7.313275-01                | 5.747275-01                                 | 2.448767+00  | 6-342487-01                                    | 7.771105-01                | 5.747105-01                   |
| 84200000-01                                   | 6.967934-01                | 5.747997-01                                 | 2.300000+00  | 6.042987-01                                    | 7+509854-01                | 5.397958-01                   |
| 8.060000-01                                   | 6.651951-01                | 5.550900-01                                 | 2.143258+00  | 5.768948-01                                    | 7 • 253176-01              | 5-077034401                   |
| 7.800000-01                                   | 6.362838-01<br>6.098333-01 | 5.358087-01                                 | 24037990+00  | 5.518214-01                                    | 7:001234-01                | 4.781629=01                   |
| 7 <b>a6000000</b> =01<br>7 <b>a400000</b> =01 | 5.856373-01                | 5+169001-01<br>4+983721-01                  | 1.921355+00<br>1.814214+00                           | 5:288820-01<br>5:078978-01                     | 6:754161-01<br>6:512062-01 | 4.509303-01<br>4.257849-01    |
| 7-200000-01                                   | 54635073-01                | 4.802900-01                                 | 1.715116+00  | 4.887054-01                                    | 6.275005-01                | 4.025271=01                   |
| 7.000800=01                                   | 5.432714=01                | 44624766-01                                 | 1.623289+00  | 4.711557=01                                    | 6:041028-01                | 3.809798=01                   |
| 6.800000-01                                   | 5.247722=01                | 4.451121-01                                 | 1.538034+00  | 4.551122-01                                    | 5.816131-01                | 3-609672-01                   |
| 6.600000001                                   | 5.078639-01                | 4-281339-01                                 | 1.458718+00  | 4.404500-01                                    | 54594283-01                | 84423521-01                   |
| 6.400000=01                                   | 4.924208-01                | 4-115372-01                                 | 14384763+00  | 4.270552=01                                    | 5.377419-01                | 3.249953-01                   |
| 6.200000=01                                   | 4.783167-01                | 3-953347-01                                 | 1.315645+00  | 4-148233-01                                    | 5 4 165446-01              | 3.087737=01                   |
| 64000000=01                                   | 4.054433-01                | 3.794572-01                                 | 1.250887+00  | 4.036588-01                                    | 44958241-01                | 2.935754-01                   |
| 54800000=01                                   | 4.537001-01                | 3 • 639535=01                               | 1.190056+00  | 3.934744=01                                    | 4.755659-01                | 2.792988=01                   |
| 5+600000-01                                   | 4.429950-01                | 34487907-01                                 | 1.132757+00  | 3.841904-01                                    | 4:557532-01                | 2-658511-01                   |
| 5.400000-01                                   | 4.332442-01                | 3.339548-01                                 | 1.078690+00  | 3•7573 <del>39</del> -01                       | 4+363676-01                | 2:531478-01                   |
| 5 <b>.200000=0</b> 1                          | 4.243708-01                | 3-194306-01                                 | 14027348+00  | 3 • 68 03 <b>84-</b> 01                        | 4 • 173892=01              | 2.411121-01                   |
| 5+000000-01                                   | 4+163049-01                | 3+052018=01                                 | 91786096-01  | 3+610432-01                                    | 3.987970-01                | 2.296736-01                   |
| 4.8000000                                     | 4.089827-01                | 2.912520-01                                 | 9.321425-01  | 3 6 5 4 6 9 2 9 - 0 1                          | 3 60 5693 - 01             | 2-187681-01                   |
| 4-600000-01                                   | 4.023456-01                | 2.775641-01                                 | 84876952-01  | 3 • 48 9 36 9 - 01                             | 3-626837-01                | 2.083366-01                   |
| 4+400000-01                                   | 3.963406-01                | 2.641207-01                                 | 8.450376-01  | 3,437290-01                                    | 3+451178-C1                | 1.983251-01                   |
| 4.200000-01                                   | 3:909189-01                | 2.509048-01                                 | 8.039574-01  | 3.390270-01                                    | 3 • 278489-01              | 1.300440-01                   |
| 4+0000000=01                                  | 3.860359-01                | 2 <b>6378991-01</b><br>2 <b>6250868</b> -01 | 7-442590-01  | 3 • 3 • 7 9 2 2 - 0 1<br>3 • 3 0 9 8 9 2 - 0 1 | 3 • 108548-D1              | 1.793669-01<br>1.703316-01    |
| 3.800000-01                                   | 3.816509-01                |   | 7 <sub>4</sub> 257609-01<br>6 <sub>4</sub> 882938-01 | 3 • 2758 <b>56-</b> 01                         | 24941134-01<br>24776032-01 | 1.615383-01                   |
| 3.600000-01<br>3.400000-01                    | 3.777263=01<br>3.742277=01 | 2e124514-01<br>1e999769-01                  | 6.516994-01  | 3.245514-01                                    | 2.613031-01                | 1.529498-01                   |
| 3.200000-01                                   | 3.711231-01                | 1.876478=01                                 | 6.158283-01  | 3.218590-01                                    | 2+451931=01                | 10445311-01                   |
| 34000000-01                                   | 3.683831-01                | 1.754491-01                                 | 5.805386-01  | 3:194827-01                                    | 2.292535-01                | 1-362488-01                   |
| 2.800000-01                                   | 34659801-01                | 1.633667-01                                 | 5.456941-C1  | 34173986-01                                    | 2.134658-01                | 1.280710-01                   |
| 2.600000~01                                   | 3.638889-01                | 1.513869-01                                 | 5-111629-01  | 3+155846-01                                    | 1.978122-01                | 1:199668-01                   |
| 24400000-01                                   | 34620836-01                | 1 = 394969=01                               | 4.768151-01  | 3+140194-01                                    | 1.822760-01                | 1-119056-01                   |
| 2.200000-01                                   | 3.605430-01                | 1.276847-01                                 | 4.425211-01  | 34126833-01                                    | 1.668413-01                | 1.038570-01                   |
| 2.000000-01                                   | 3.592444-01                | 1:159388-01                                 | 4.081486-01  | 3:115571-01                                    | 1.514934=01                | 9.578997-02                   |
| 1.800000-01                                   | 3.581669-01                | 1.042488-01                                 | 3.735596-01  | 3:106226-C1                                    | 1+362184-01                | 8.767215-02                   |
| 1:600000-01                                   | 3.572900-01                | 9.260493-02                                 | 3.386053-01  | 3.098621-01                                    | 1.210038-01                | 7.946858-02                   |
| 1:400000-01                                   | 3.565935-01                | 8 • 09 9 8 3 6 - 5 2                        | 3.031191-01  | 3.092581-01                                    | 1.058379-01                | 7.114020-02                   |
| 1.200000-01                                   | 3.560577-01                | 6+942105-02                                 | 2:669062-01  | 3.087934-01                                    | 9.071017~02                | 6.264124-02                   |
| 1.0000000=01                                  | 3 <b>+556628-</b> 01       | 5.786587-02                                 | 2.297238-01  | 3.094509-C1                                    | 7.561140-02                | 5.391477-02                   |
| 8.000000-02                                   | 3.553887-01                | 4.632659-02                                 | 1.912470-01  | 3.082132-01                                    | 6.053341-02                | 4.488449-02                   |
| 6.000000-02                                   | 3.552150-01                | 3-479793-02                                 | 1.509934-01  | 3+080626-01                                    | 4+546930=02                | 3.543722=02<br>2.537831-02    |
| 4.000000-02                                   | 3.551205-01                | 2.327560-02                                 | 1.081337-01  | 3-079807-01                                    | 3.041345-02                |                               |
| 2+000000-02                                   | 3.550827-01                | 1.175634-02                                 | 6.081512-02  | 3.079478-01                                    | 1.536162-02                | 1,427293-02                   |

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|                            |                                     |  | д - 3.0                    |                          |                            |                            |
|----------------------------|-------------------------------------|--|----------------------------|--------------------------|----------------------------|----------------------------|
| x                          | g                                   | f  | h                          | p/p <sub>R</sub>         | u/u <sub>R</sub>           | $ ho/ ho_{ m R}$           |
|                            |                                     |  | 4 . 821 4 20 405           | 1.000000+00              | 1.000000+00                | 1.000000+00                |
| 1.0000000+00               | 1.156250+00                         | 7.812500-01                                  | 4.571429+00                | 9.345387-01              | 94708753⇒01                | 9-183380-01                |
| 9.8000000=01               | 1.080560+00                         | 7.584963-01                                  | 4.198117+00<br>3.863332+00 | 8-753797-01              | 9.420572-01                | 8-451038-01                |
| 9.600000-01                | 1.012158+00                         | 7.359822-01                                  | 3.562492+00                | 8.218628-01              | 9 • 135723-01              | 7.792950-01                |
| 9.400000-01                | 9.502789-01                         | 7.137283-01                                  | 3.291620+00                | 7.794070-01              | 8.854465-01                | 7-200419-01                |
| 9.200000-01                | B:942518=01                         | 6.917551-01                                  | 3.047257+00                | 7.294993=01              | 8.577056-01                | 6,665875-01                |
| 9.000000-01                | 8.434836-01                         | 64700825=01                                  | 2 826382+00                | 6-896864=01              | 8.303740-01                | 6-182710-01                |
| 8.800000-01                | 7.974499-01                         | 6+487297=01                                  | 2.626350+00                | 6.535656-01              | 8.034748-01                | 5.745140-01                |
| 8.600000-01                | 7,556852-01                         | 6•277147 <b>=</b> 01<br>6•070539 <b>=</b> 01 | 2,444841+00                | 6.207788-01              | 7.770290-01                | 5.34B090 <b>-</b> 01       |
| 8-400000-01                | 7.177755-01                         | 5.867619 <b>-</b> 01                         | 2,279815+00                | 5.910065-01              | 7-510552-01                | 4.987095-01                |
| B.209000-01                | 6.833513-01                         | 5.668510-01                                  | 2.129470+00                | 5-639629-01              | 7.255692=01                | 4.658215-01                |
| 8.000000-01                | 6.520821=01                         | 5.473309-01                                  | 1.992215+00                | 5.393920-01              | 7.005835-01                | 4.357970-01                |
| 7.800000-01                | 6.236720-01                         | 5.282088-01                                  | 1.866641+00                | 5-170637-01              | 6.761079-01                | 4.083276-01                |
| 7.600000-01                | 5.978549-01                         | 5.094892-01                                  | 1.751496+00                | 4-967709-01              | 6.521461-01                | 3.831997-01                |
| 7.400000-01                | 5.743914-01                         | 4 <u>4911733</u> =01                         | 1.645670+00                | 4.783272-01              | 6.287018-01                | 34599903-01                |
| 7.200000-01                | 5.530659=01                         | 4.732599=01                                  | 1.548173+00                | 4:615644-01              | 6:0577 <del>26-</del> 01   | 3.386628-01                |
| 7.000000-01                | 5.336838=01<br>5.160694 <b>-</b> 01 | 4.557448-01                                  | 1.458124+00                | 4.463303-01              | 5.833533-01                | 3.189646-01                |
| 6-800000-01                | 5.000638-01                         | 4.386213-01                                  | 1.374737+00                | 4.324876=01              | 5-614393-01                | 3.007237-01                |
| 6.600000-01                | 4.855234-01                         | 4.218804-01                                  | 1.297309+00                | 4-199121-01              | 5.400069-01                | 2.837864-01                |
| 6.400000=01                | 4.723183-01                         | 4.055109-01                                  | 1.225215+00                | 4.084915-01              | 5.190540-01                | 2.680157-01                |
| 6.200000-01                | 4.603309-01                         | 3.894999-01                                  | 1.157892+00                | 3.981240-01              | 4.985599-01                | 2.532888-01                |
| 6.000000=01                | 4.494549-01                         | 3.738328-01                                  | 1.094839+00                | 3.887177-01              | 4.785060-01                | 2.394959-01                |
| 5.800000-01                | 4.395940-01                         | 3.584939=01                                  | 1.035606+00                | 3.801894-01              | 4.588722-01                | 2.265389-01                |
| 5.600000-01                | 44306610=01                         | 34434664-01                                  | 9.797924-01                | 3.724635-01              | 4.394370-01                | 2.143296-01                |
| 5.400000-01                | 4.225769-01                         | 3.287329-01                                  | 9-270356-01                | 3-654719-01              | 4.207781-01                | 2.027890-01                |
| 5.200000-01                | 4.152702-01                         | 3.142756-01                                  | B.770119=01                | 3.591526-01              | 4.022728-01                | 1.918463-01                |
| 5.000000-01                | 4.086759=01                         | 3.000765-01                                  | 8.294303-01                | 3.594495-01              | 3.840979-01                | 1.814379=01                |
| 4.800000-01<br>4.600000-01 | 4.027352-01                         | 2.861174-01                                  | 7-840294-01                | 3•483115-C1              | 3 • 662302-01              | 1.715064-01                |
|                            | 3.973943-01                         | 2.723803-01                                  | 7.405739-01                | 3:436 <del>92</del> 4-01 | 3 • 48 6 4 6 8 = 0 1       | 1.620005-01                |
| 4.400000-01<br>4.200000-01 | 3.926045-01                         | 2.588478-01                                  | 6.988518-01                | 3:395498-01              | 3.313251-01                | 1,528738-01                |
| 4.000000-01                | 3.883212-01                         | 2.455024=01                                  | 6.586723-01                | 3:358453-01              | 3.142431-01                | 1:440846=01                |
| 3.800000-01                | 3.845035-01                         | 2.323276-01                                  | 6.198633-01                | 3•325436-01              | 2.978793-01                | 1:355951-01                |
| 3.600000-01                | 3.811141-01                         | 2.193071-01                                  | 5.822695-01                | 3-296122-01              | 2-807131-01                | 1.275715-01<br>1.199830-01 |
| 3.400000=01                | 3.781185-01                         | 2:064255=01                                  | 5.457509-01                | 3:270214-01              | 2 • 642247-01              | 1:175021=01                |
| 3.200000-01                | 3.754847=01                         | 14936682-01                                  | 5.101812-01                | 3+247435-01              | 2.478953-01                | 1-040039-01                |
| 34000000-01                | 3.731832-01                         | 1.810210-01                                  | 4 <b>.754466</b> -01       | 3+227551-01              | 2.317069-01                | 94656600-02                |
| 2.800000-01                | 34711864-01                         | 1.684708-01                                  | 444446-01                  | 3.210261-01              | 2 • 156427-01              | 8.026826=02                |
| 2.600000-01                | 3-694684-01                         | 1.560053-01                                  | 4.080835-01                | 3-195402-01              | 1.996868=01                | 8 209276-02                |
| 2.400000-01                | 3-680048-01                         | 1.436128-01                                  | 3.752812-01                | 3.182744-01              | 1:838244-01                | 7.502358-02                |
| 24200000-01                | 3.667724-01                         | 1.312826-01                                  | 3.429650-01                | 3.172086-01              | 1:480418-01                | 6.804672-02                |
| 2.000000-01                | 3-657493-01                         | 1.190049-01                                  | 3-110707-01                | 3-163257-01              | 1.523263-01                | 6.115003-02                |
| 1.800000-01                | 3.649142-01                         | 1.067707-01                                  | 2.795430-01                | 3-156014-01              | 1:366665-01                | 5.432323-02                |
| 1.600000-01                | 3.642468-01                         | 9•457171-02                                  | 2.483348-01                | 3.150242-01              | 1.210518-01                | 4.755795-02                |
| 1.400000-01                | 3.637273-01                         | 8.240072-02                                  | 2.174078-01                | 3.145750-01              | 1.054729-01                | 4.084781=02                |
| 1.200000-01                | 3,633365-01                         | 7.025125-02                                  | 1.847329-01                | 3-142370-01              | 8.992160=02<br>7.439066=02 | 3-418871-02                |
| 1-000000-01                | 3.630596-01                         | 5.811770-02                                  | 1.562912-01                | 3:139940-01              | 5.887402-02                | 2.757928-02                |
| 8.000000-02                | 3.628660-01                         | 4.599533=02                                  | 1.260767-01                | 3-138300-01              | 4.336671=02                | 2.102193-02                |
| 6.000000-02                | 3,627494-01                         | 3.388025-02                                  | 9,610025-02                | 3-137292-01              | 2.786483-02                | 1.452511-02                |
| 44000000=02                | 3.626880=01                         | 2.176940-02                                  | 6.440052-02                | 3.136761-01              | 1.236554-02                | 84110082-03                |
| 2.000000-02                | 3.626639-01                         | 9.660576-03                                  | 3.707466-02                | 3.136553-01              | T 4 T 3 A 3 A 4 - A T      |                            |

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| ×                     | g           | Í                    | h                     | p/p <sub>R</sub>     | u/u <sub>R</sub>           | p∕p <sub>R</sub>                 |
|-----------------------|-------------|----------------------|-----------------------|----------------------|----------------------------|----------------------------------|
| 1.000000+00           | 1.160000+00 | 8.0000000=01         | 4#999999+00           | 1.000000+00          | 1.000000.00                |                                  |
| 9.800000-01           | 1.077893+00 | 7-766087-01          | 44518646400           | 9:292181~01          | 14000000+00                | 1.000000+00                      |
| 9.600000-01           | 1.004848+00 | 7.535219-01          | 4.096256+00           |                      | 9.707610-01                | 9 037293-01                      |
| 9:400000~01           | 9.397491-01 | 7.307624-01          | 34724842+00           | 8+662487-01          | 9+419024-01                | Be 192513-01                     |
| 9:200000-01           | 8.816365-01 | 7.083520-01          | 3.395789+00           | 8+101286-01          | 9+134530-01                | 7:446685~01                      |
| 9:000000-01           | 8.296857-01 | 54863110=01          | 3.104605+00           | 74600315-01          | 8:854401-01                | 0 <b>•791579=</b> 01             |
| 8-800000-01           | 7.831838-01 | 6:646577=01          | 2 6 8 4 5 7 2 1 + 0 0 | 7:152464=01          | 8.578668-01                | 6.209210 <b>-</b> 01             |
| 8 600000-01           | 7,415118-01 | 6:434077-61          | 24614832+00           | 6+751585-01          | 6 • 30 8 2 2 1 - 0 1       | 9+691442-01                      |
| 8+400000-01           | 7:041304-01 | 6+225742=01          | 2:408271400           | 6+392343=01          | 8+042597-01                | 5•22 <del>966</del> 5-01         |
| 8-200000-01           | 6:705684-01 | 6 - 021669-01        | 2:222897+00           | 6.070090-01          | 7.782178-01                | 4.816542-D1                      |
| 8.000000-01           | 6.404125-01 | 5.821923=01          |                       | 3-780769-01          | 7+527086-01                | 4+457 <del>9</del> 5- <b>8</b> 2 |
| 7.800000-01           | 6.132990-01 | 5.626537=01          | 2.056018+00           | 5.520797-01          | 7+277404-01                | 4 <b>:112036-0</b> 1             |
| 7.600000-01           | 5.889075=D1 | 5.435508=01          | 1.905314+60           | 5-287061-01          | 7:035172=01                | 3+810629-01                      |
| 7.400000=01           | 54669547-01 |                      | 1.768785+00           | 5 <b>•076789-0</b> 1 | 6   7 <del>94</del> 385~01 | 3+537570-01                      |
| 7.200000-01           | 54471899-01 | 5.248799-01          | 1.644699+00           | 4.887541-01          | 6:560998=01                | 3 - 289398-01                    |
| 7.000000-01           | 5.293905-01 | 5.066343-01          | 1.531555+00           | 4.717154-01          | 6+332929-01                | 3.063110-01                      |
| 64800000=01           |             | 4-888046-01          | 14428049+00           | 4.563712-01          | 6-110058-01                | 2 . 856098-01                    |
| 6.600000-01           | 5-133591-01 | 4.713786-01          | 1.393046+00           | 4=42551C-01          | . 5 . 892233=01            | 2 4 6 6 6 0 9 3 - 0 1            |
|                       | 4.989199=01 | 4.543421-01          | 1.245558+00           | 4=301034-01          | 5+679276-01                | 2:491117-01                      |
| 6.400000=01           | 4.859166-01 | 4:376789 <b>-</b> 01 | 1.164722+00           | 4:188936=01          | 5-470986-01                | 2:329443-01                      |
| 6.200000-01           | 4.742096-01 | 4:213714-01          | 1.089782+00           | 4.088014=01          | 5+267143-01                | 21179564-01                      |
| 6.000000-01           | 4.636746-01 | 4.054011-01          | 1.020080+00           | 3.997195-01          | 5.067514-01                | 2.040160-01                      |
| 5 800000-01           | 4#542003-01 | 3+897484-01          | 9.550375-01           | 3 • 915520=01        | 4+871855=01                | 1.910075-01                      |
| 5.600000-01           | 4:456873-01 | 3•743935≃01          | 8.941490-01           | 3.642132-01          | 44679919-01                |                                  |
| 5 400000-01           | 4:380464-01 | 3.593162-01          | 5-369702-01           | 3+776263-D1          | 4:491453=01                | 1.788298=01<br>1.673941=01       |
| 5 • 200000=01         | 4.311977-01 | 3:444967-01          | 7.831119-01           | 3:717222-01          | 4.306208=01                |                                  |
| 5:000000=01           | 4.250692-01 | 3.299149=01          | 7-322325-01           | 3-644390-01          | 4.123937-01                | 1.566224-01                      |
| 4.800000-01           | 4.195960-01 | 3.155517-01          | 6.840324-01           | 3-617207-01          | 3:944396=01                | 1+464465-01                      |
| 4.600000-01           | 4+147196-01 | 3.013880-01          | 6.382493-01           | 3-575170-01          | 3.767351-01                | 1.368065-01                      |
| 4+400000-01           | 4+103869-01 | 2.874060=01          | 5.946534-01           | 3.537819-01          | 3.592575-01                | 1 = 276499-01                    |
| 4+200000-01           | 4.065497=01 | 2.735880-01          | 5-530440-01           | 3.504739-01          | 3.419850=01                | 1+189307-01                      |
| 44000000=01           | 4.031640-01 | 2+599176=01          | 5.132467-01           | 3+475552-01          |                            | 1-106088-01                      |
| 3.800000-01           | 4.001896-01 | 2-463790-01          | 4.751102-01           | 3.449911-01          | 3.248970-01                | 1.026494-01                      |
| 3 • 600000-01         | 3.975896-01 | 2-329575-01          | 4.385045-01           | 3.427497-01          | 3-079738-01                | 9-502206-02                      |
| 3 • 400000-01         | 3.953300-01 | 2+196392-01          | 4.033186-01           | 3:408017-01          | 2 • 911969=01              | 8.770091-02                      |
| 3.200000-01           | 3.933791-01 | 2.064113=01          | 3+694602-01           | 3:391200-01          | 2.745491-01                | 8.066978-02                      |
| 3.000000-01           | 3.917079-01 | 1.932617-01          | 3-368520-01           |                      | 2 - 5 8 0 1 4 1 - 0 1      | 7-389204-02                      |
| 2 800000-01           | 3.902889-01 | 1.801794-01          | 3.054334=01           | 3:376792-01          | 2 • 415771-01              | 6.737041-02                      |
| 2 = 600000-01         | 3.890965-01 | 1.671543-01          | 2.751583-01           | 3-364559-01          | 2 • 252242-01              | 6.108668-02                      |
| 2 4 4 0 0 0 0 0 7 0 1 | 3.881069-01 | 1.541772=01          | 2.459951=01           | 3+354281-01          | 2+089428-01                | 5.503166-02                      |
| 2.200000=01           | 3.872972-01 | 1.412400-01          |                       | 3+345749-01          | 1+927216-01                | 4•919902-02                      |
| 2.000000-01           | 3.866463-01 |                      | 2-179267-01           | 3+338770=01          | 1.765500-01                | 4:356535-02                      |
| 1.800000-01           | 3.861337-01 | 1:283351=01          | 1.909510-01           | 3.333158-01          | 1+604189-01                | 3.819020-02                      |
| 1.600000=01           | 3.8574C5≃01 | 1+154562-01          | 1.650811-01           | 3•328739-01          | 1•443202-01                | 3.301622-02                      |
| 1.400000-01           | · · · · · · | 1+025973=01          | 1:403478-01           | 3:325349-01          | 1:282467-01                | 2 806955-02                      |
| 1.200000-01           | 3.854484-01 | 8 • 975382=02        | 1.168012-01           | 3.322831-01          | 1:121923-01                | 2+336025-02                      |
| 1.000000-01           | 3+852403-01 | 7.692145-02          | 9-451600-02           | 3.321038-01          | 9+615181-02                | 1 890320-02                      |
| 8.000000-01           | 3.851002-01 | 6+409683=02          | 7.359796-02           | 3:319830=01          | 8 • 012104-02              | 1.471959=02                      |
| 6.000000-02           | 3.850130=01 | 5 • 127725 = 02      | 5.419733-02           | 3:319078=01          | 6+409657-02                | 1.083947-02                      |
| 4.000000-02           | 3.849647=61 | 3 846067 02          | 3-653400-02           | 3+318661-01          | 4+807584-02                | 7-306801-03                      |
| 2.0000000-02          | 3-849427-01 | 2.564562-02          | 2+095420-02           | 3+318472-01          | 3+205703-02                | 4+190840-D3                      |
| 5 9 40 40 40 40 - 45  | 3+849359=01 | 1.283118-02          | 84096438-03           | 3.318413-01          | 1+603897-02                | 14619288-03                      |
|                       |             |                      |                       |                      | <del>-</del>               |                                  |

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|  |                            |                            | M = 7.0                          |  |                               |                            |
|--|----------------------------|----------------------------|----------------------------------|--|-------------------------------|----------------------------|
| x  | g                          | f                          | h                                | p/p <sub>R</sub>                                     | u/u <sub>R</sub>              | p/p <sub>R</sub>           |
|  | 1.163265+00                | 8.163265-01                | 5.444445+00                      | 1.000000+00  | 1.000000+00                   | 1.000000+00                |
| 1.0000000+00                             | 1.074343+00                | 7.922466-01                | 4.827665+00                      | 9.235583-01  | 9.705021-01                   | 8.867139-01                |
| 9.800000-01                              | 9.966893-01                | 74685547-01                | 4.300117+00                      | 8.568031-01  | 9.414795-01                   | 7.898174-01                |
| 9.600000=01<br>9.400000=01               | 9.286744-01                | 7.452751-01                | 3.846438+00                      | 74983341-01  | 9-129620-01                   | 7.064886-01                |
| 9.200000-01                              | 8.689440-01                | 7.224293-01                | 3,454256+00                      | 7.469869-01  | 8.849759-01                   | 6.344552-01                |
| 9.000000-01                              | 8-163646-01                | 7+000358-01                | 3 - 113539+00                    | 7.017871-01  | 8.575439-01                   | 5.718746-01<br>5.172432-01 |
| 8.800000-01                              | 7.699824-01                | 6.781091-01                | 2.816102+00                      | 6.619147-01  | 8.306837-01                   | 4-693269-01                |
| 8.600000-01                              | 7.289899-01                | 6+566597-01                | 2,355224+00                      | 6.266755-01  | 8:044082-01<br>7:787249-01    | 4.271067-01                |
| 8.400000-01                              | 6.927000-01                | 6+356938-01                | 2,325359+00                      | 5.954790-01<br>5.678204-01                           | 7.536361-01                   | 3.897378-01                |
| 8.200000-01                              | 6.605258-01                | 6.152131-01                | 2,121906+00                      | 5.432666-01  | 7-291386-01                   | 3-565158-01                |
| 6.000000-01                              | 6.319631-01                | 5.952152-01                | 1.941030+00                      | 5.214442-01  | 7.052245-01                   | 3.268516-01                |
| 7.800000-01                              | 6.065780-01                | 5.756935-01                | 1.779525+00<br>1.634696+00       | 5.020309-01  | 6-818812-01                   | 3-002502-01                |
| 7.600000-01                              | 5.839951-01                | 5.566377-01                | 1.504270+00                      | 4.847467-01  | 6.590921-01                   | 2.762945-01                |
| 7.400000-01                              | 5.638890-01                | 5.380344-01                | 1.386329+00                      | 4.693485-01  | 6.368370-01                   | 2,546918-01                |
| 7.200000-01                              | 5.459769-01                | 5.198670-01<br>5.021169-01 | 1,279243+00                      | 4.556244-01  | 6.150932-01                   | 2.349630-01                |
| 7.000000-01                              | 5.300121-01                | 4.847635-01                | 1.181630+00                      | 4.493892-01  | 5.938353-01                   | 2.170340-01                |
| 6.800000-01                              | 5.157792-01                | 44677851-01                | 1,092308+00                      | 4.324806-01  | 5.730367-01                   | 2.006280-01                |
| 6.600000-01                              | 5.030897-01<br>4.917778-01 | 44511587-01                | 1.010272+00                      | 4.227563-01  | 3 <b>•</b> 52 <b>6</b> 695-01 | 1.855602-01                |
| 6.400000-01                              | 4.816980-01                | 4.348613-01                | 9.346594-01                      | 4.140913-01  | 5.327051-01                   | 1.716721-01                |
| 6+200000-01                              | 4.727218-01                | 4-188694-01                | 8.647314-01                      | 4.063749-01  | 5.131151-01                   | 1.588282-01                |
| 6.0000000 <del>-</del> 01<br>5.800000-01 | 4.647358-01                | 4.031599-01                | 7,998540-01                      | 3.995097-01  | 4.938709-01                   | 1.469120-01                |
| 5.600000-01                              | 4.576392-01                | 3.877100-01                | 7.394824-01                      | 3.934091-01  | 4.749448-01                   | 1.358233-01                |
| 5.400000-01                              | 4.513427-01                | 3.724976-01                | 6.831480-01                      | 3.879964-01  | 4.563096-01                   | 1.254762-01                |
| 5.200000-01                              | 4.457666-01                | 3.575014-01                | 6.304475-01                      | 3.832028-01  | 4.379392-01                   | 1.157965-01<br>1.067206-01 |
| 5.000000-01                              | 4,408395-01                | 3,427009-01                | 5.810341-01                      | 3.789672-01  | 4.198086-01<br>4.018940-01    | 9-819358-02                |
| 4.800000-01                              | 4,364975-01                | 3-280768-01                | 5.346095-01                      | 3.752347-01  | 3.841731-01                   | 9.016851-02                |
| 4.600000-01                              | 4,326830-01                | 3.136107-01                | 4.909175-01                      | 3:719556-01<br>3:69 <b>0</b> 853-01                  | 3.666247-01                   | 8-260498-02                |
| 4.400000-01                              | 4.293442-01                | 2.992855-01                | 4,497383-01                      | 34645834-01  | 3.492291-01                   | 7.546853-02                |
| 4.200000-01                              | 4.264337-01                | 2.850850-01                | 4,108842-01                      | 3.644128-01  | 3-319681-01                   | 6.872980-02                |
| 4.000000-01                              | 4-239088-01                | 2.709944-01                | 3,741956-01<br>3,395370-01       | 3.625401-01  | 3-148248-01                   | 6-236394-02                |
| 3-800000-01                              | 4.217303-01                | 2.569998-01                | 3.067950-01                      | 3.609343-01  | 2.977837-01                   | 5.635009-02                |
| 3.600000-01                              | 4.198624-01                | 2 430887-01<br>2 292494-01 | 24758749-01                      | 3.595673-01  | 2.808305-01                   | 5.067090-02                |
| 3.400000-01                              | 4.182722-01                | 2.154715-01                | 2.466993-01                      | 3.584131-01  | 2.639525-01                   | 4.531211-02                |
| 3.200000-01                              | 4,169295-01                | 2.017454-01                | 2-192058-01                      | 3.574475-01  | 2.471381-01                   | 4.026229-02                |
| 3.000000-01                              | 4.158062-01<br>4.148767-01 | 1.880626-01                | 1.933455-01                      | 3.566484-01  | 2 • 3 0 3 7 6 7 - 0 1         | 3.551243-02                |
| 2 800000-01                              | 4.141170-01                | 1.744157-01                | 1.690816-01                      | 3.559953-01  | 2.136593-01                   | 3.105581-02                |
| 2.600000~01<br>2.400000~01               | 4.135050-01                | 1.607981-01                | 1.463885-01                      | 3.554692-01  | 1-969776-01                   | 2 688768-02                |
| 24200000-01                              | 4.130204-01                | 1.472038-01                | 1.252503-01                      | 3.550526-01  | 1.803246-01                   | 2.300516-02                |
| 2.000000-01                              | 4.126443-01                | 1.336278-01                | 1.056605-01                      | 3.547293-01  | 1.636941-01                   | 1.940702-02<br>1.609366-02 |
| 1.800000-01                              | 4-123595-01                | 1.200661-01                | 8.762105-02                      | 3.544845-01  | 1.470610-01                   | 1.306695-02                |
| 1.600000-01                              | 4.121501-01                | 1+065149-01                | 7.114230-02                      | 3.543045-01  | 1.304808-01<br>1.138900-01    | 1.033028-02                |
| 1.400000-01                              | 4-120018-01                | 9.297144-02                | 5.624263-02                      | 3.541770-01  | 9.730576-02                   | 7488579-03                 |
| 1.200000-01                              | 4.119017-01                | 7.943328-02                | 4.294893-02                      | 3.540909-01  | 8+072591-02                   | 5.748513-03                |
| 1.000000-01                              | 4.118362-01                | 6.589862-02                | 3.129746-02                      | 3.540363-01  | 6.414848-02                   | 3.918817-03                |
| 8.000000-02                              | 4.118013-01                | 5,236611-02                | 2.133578-02                      | 3 <sub>4</sub> 540046-01<br>3 <sub>4</sub> 539884-01 | 4.757261-02                   | 2.410988-03                |
| 6.000000-02                              | 4.117825-01                | 3.883478-02                | 1,312649-02                      | 3.539817-01  | 3.099742-02                   | 1.240716-03                |
| 4.000000-02                              | 4.117746-01                | 2.530401-02                | 6.755007-03<br>2.348345-03       | 3.539798-01  | 1.442248-02                   | 4.313287-04                |
| 2.000000-02                              | 4.117724-01                | 1.177345-02                | £ 4 5 4 6 5 4 7 <sup>-</sup> V 3 | 2422472-01   |                               | -                          |

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| ×                          | g                          | f                                   | h  | p/p <sub>R</sub>           | u/u <sub>R</sub>               | 2/2                        |
|----------------------------|----------------------------|-------------------------------------|--|----------------------------|--------------------------------|----------------------------|
| 1.0000000+00               | 1 1/2000                   |                                     |  |                            | → ¬ <b>R</b>                   | P∕P <sub>R</sub>           |
| 94800000=01                | 1:165000+00<br>1:072250+00 | 8.250000-01<br>8.005970-01          | 5.714286+00<br>5.005283+00                           | 1.000000+00                | 1.000000+00                    | 1-000000+00                |
| 94600000-01                | 9.922285-01                | 7.766461-01                         | 4.408632400  | 9.203859-01                | 9.704206-01                    | 8.759246-01                |
| 9.400000-01                | 9.229274-01                | 7.531712-01                         | 34903037+00  | 8.516983-01<br>7.922123-01 | 9=413892-01<br>9=129348-01     | 7.715106-01                |
| 9-200000-01                | 6.627073-01                | 7.301921-01                         | 3.471779+00  | 7.405213-01                | 8+850814-01                    | 6.830314-01<br>6.075613-01 |
| 9:000000-01                | 8.102211-01                | 7:077240-01                         | 3.101618+00  | 6.954687-01                | 8.578473-01                    | 5+427832-01                |
| 8.800000-01                | 7.643533-01                | 6.857769-01                         | 24781987+00  | 6.560973-01                | 8+312447-01                    | 4,868476-01                |
| B.600000-01                | 7+241743-01                | 6:643553-01                         | 2.504385+00  | 6.216089-01                | 8+052792-01                    | 4-382673-01                |
| 8+400000-01                | 6.889045-01                | 6.434590-01                         | 2.261935+00  | 5.913343-01                | 7.799503-01                    | 3.958385-01                |
| 8 • 200000-01              | 6.578867-01                | 6.230823-01                         | 24049034+00  | 5.647096-01                | 7-552513-01                    | 3.585809-01                |
| 84000000-01                | 6.305640-01                | 6.032151-01                         | 1.861096+00  | 5.412567-01                | 7.311698-01                    | 3.256917-01                |
| 7.800000-01                | 6.064627-01                | 5.838432-01                         | 1.694345+00  | 5.205689-01                | 7.076887-01                    | 2.965104-01                |
| 7.600000-01                | 5.851781-01                | 5.649488-01                         | 1.545661+00  | 5.022988-01                | 6.847864-01                    | 24704906-01                |
| 7.400000-01                | 5.663631-01                | 5.465111-01                         | 1.412450+00  | 4 <b>:861486</b> -01       | 6.624377-01                    | 2.471788-01                |
| 7.200000-01                | 5.497192-01                | 3-285073-01                         | 1.292554+00  | 4 <b>:</b> 718620-01       | 6:406150-01                    | 2.261970-01                |
| 7.000000-01<br>6.800000-01 | 5.349888-01<br>5.219486-01 | 5.109129-01                         | 1.184166+00  | 4.592178-01                | <b>6</b> ⋅192883-01            | 2.072290-01                |
| 6.600000-01                | · • · • -                  | 4.937021-01                         | 1.085768+00  | 4.480246-01                | 5.984268-01                    | 1.900094-01                |
| 64400000-01                | 5.104051-01<br>5.001896-01 | 4.768487-01                         | 9.960839-01  | 44381160-01                | 5.779985-01                    | 1.743147-01                |
| 64200000-01                | 4.911545~01                | 4:603266~01<br>4:441095 <b>-</b> 01 | 9:140364-01  | 4.293473-01                | 5.579716-01                    | 1.599564-01                |
| 6.DO0D00-01                | 4.831708-01                | 4.281720-01                         | 8.387129-01  | 4.215919-01                | 5.383145-01                    | 1.467748-01                |
| 5.800000-01                | 4.761248-01                | 4.124895-01                         | 7 <sub>0</sub> 693399-01<br>7 <sub>0</sub> 052596-01 | 4-147389-01                | 5-189964-01                    | 1.346345-01                |
| 5.600000-01                | 4.699163-01                | 3-970382-01                         | 6.459123-01  | 4.086908-01                | 4.999872-01                    | 1.234204-01                |
| 5-400000-01                | 4.644564-01                | 3-917956-01                         | 5.908204-01  | 4.093616-01<br>3.986750-01 | 4.812584-D1                    | 1.130346-01                |
| 5.200000-01                | 4-596662-01                | 3-667403-01                         | 5.395766-01  | 3.945633-01                | 4.627825-01                    | 1.033936-01                |
| 5.000000-01                | 4-554755-01                | 3-518524-01                         | 4.918327-01  | 3.909661-01                | 4 • 445337-01                  | 9.442590-02                |
| 4.800000-01                | 4.518211-01                | 3-371132-01                         | 4.472912-01  | 3.878293-01                | 4+264878-01<br>4+086220-01     | 8 607072-02                |
| 4.600000-01                | 4.486466-01                | 3.225052-01                         | 4.056978-01  | 3.851044-01                | 3.909154-C1                    | 7•827595-02<br>7•099711-02 |
| 4.400000-01                | 4.459010-01                | 3.080125-01                         | 3.668352-01  | 3.827476-01                | 3.733484-01                    | 6.419616-02                |
| 4 • 200000-01              | 4.435380-01                | 2:936203-01                         | 34305179-01  | 3-807193-01                | 3.559034-01                    | 5.784062-02                |
| 4.000000-01                | 4.415159-01                | 2.793153-01                         | 2-965873-01  | 3.789836-01                | 3-385640-01                    | 5.190277-02                |
| 3-800000-01                | 4:397966-01                | 2.650852-01                         | 2.649084-01  | 3.775078-01                | 3.213154-01                    | 4-635897-02                |
| 3.600000-01                | 4.383455-01                | 2:509190-01                         | 2:353660-01  | 3.762622-01                | 3.041442-C1                    | 4-118906-02                |
| 3-400000-01                | 4.371309-01                | 2.368069-01                         | 2,078622-01  | 3.752196-01                | 2.870386-01                    | 3-637588-02                |
| 3.200000-01                | 4.361238-01                | 2.227400-01                         | 1.823133-01  | 3.743552-01                | 2.699879-01                    | 3-190482-02                |
| 3.000000-01                | 4.352978-01                | 2.087106-01                         | 1.586482-01  | 3.736462-01                | 2.529826-01                    | 2+776343-02                |
| 2:800000-01<br>2:600000-01 | 4.346287-01<br>4.340944-01 | 1.947119-01                         | 1.368060-01  | 3.730719-01                | 2+360145-01                    | 2+394105-02                |
| 2.400000-01                |                            | 1.807380-61                         | 1,167345-01  | 3.726133-01                | 2+190763-01                    | 2+042853-02                |
| 2 200000-01                | 4.336749-01<br>4.333518-01 | 1.667837-01                         | 9.838836-02  | 34722531-01                | 2.021620-01                    | 1.721796-02                |
| 2.000000-01                | 4.331088-01                | 1.528447-01<br>1.389173-01          | 8 • 172794-92  | 3.719758-01                | 1.852662-01                    | 14430239-02                |
| 14800000-01                | 4.329310-01                | 1.249987-01                         | 6.671776~02  | 3.717672-01                | 1.6B3846-D1                    | 1•167561-02                |
| 1.600000-01                | 4.328054-01                | 1.110863-01                         | 5.332532-02<br>4.152000-02                           | 3.716146-01                | 1.515136-01                    | 9:331931-03                |
| 1.400000-01                | 4.327203-01                | 9.717827-02                         | 3.127180-02  | 3.715067-01                | 1.346501-01                    | 7-265999-03                |
| 1.200000-01                | 4.326657-01                | 8.327312-02                         | 2.255021-02  | 3.714337-01<br>3.713869-01 | 1-177918-01                    | 5 • 472565-03              |
| 1.000000-01                | 4.326333-01                | 64936974-02                         | 1.532280-02  | 3.713599~01<br>3.713590~01 | 1.009371-01                    | 3 • 946286-03              |
| 8.000000-02                | 44326158-01                | 5.546738-02                         | 9.553615-03  | 3.713440-01                | 8 • 408453-02<br>6 • 723318-02 | 2.681490-03                |
| 6.000000-02                | 4.326078-01                | 4.156553-02                         | 5.200750-03  | 3.713371-01                | 5.038246-02                    | 1.671883-03                |
| 44000000-02                | 4.326049-01                | 2.766390-02                         | 2.212442-03  | 3.713346-01                | 3.353200-02                    | 9e101312-04<br>3e871773-04 |
| 2:000000-02                | 4.326042-01                | 1.376233-02                         | 5-186630-04  | 3.713341-01                | 1:668161-02                    | 9.076602-05                |
|                            |                            |                                     |  |                            | -1-00141 -45                   | - =U 100UZ-U3              |

TABLE 2 (Concluded

|                      |             |                            | M = oc      |              |                      |                                |
|----------------------|-------------|----------------------------|-------------|--------------|----------------------|--------------------------------|
| x                    | g           | f                          | h           | $p/p_R$      | u/u <sub>R</sub>     | p∕P <sub>R</sub>               |
|                      | 1.166667+00 | 8.333333-01                | 6.000000+00 | 1.0000000+00 | 1.000000+00          | 1+000000+00                    |
| 1+0000000+00         | 1.069834+00 | 8.085801-01                | 5.182817+00 | 9.170005-01  | 9.4702962-01         | 8.638029-01                    |
| 9.800000-01          | 9.874296=01 | 7.843538-01                | 4.507602+00 | 8:463683-01  | 9:412246-01          | 7.512670-01                    |
| 9.600000-01          | 9.169645-01 | 7-606765-01                | 3.944749+00 | 7-859696-01  | 9:128118 <b>-</b> 01 | <b>4</b> ∗574982 <b>~</b> 01   |
| 9.400000-01          | 8.564510=01 | 7.375643-01                | 3.471668+00 | 7.341009-01  | 8.850772-01          | 5.786113=01                    |
| 9.200000-01          | 8.042877-01 | 7-150270-01                | 3.070927+00 | 6.893895-01  | 8.580324-01          | 5.118211-01                    |
| 9.000000-01          | 7.591724-01 | 6.930678-01                | 2.728946+00 | 6.507192-01  | 8:314B14=01          | 4 <b>a54824<del>4-</del>01</b> |
| 8.600000-01          | 7.200380-01 | 6.716833-01                | 2.435050+00 | 6.171755-01  | 8:060200-01          | 4.058416-01                    |
| 8.600000-01          | 6.860038-01 | 6.508644-01                | 2.18C775+0C | 5.880033-01  | 7.810373-01          | 3+634625-01                    |
| 8.400000-01          |             | 6.305964-01                | 1.959365+00 | 5.625757-01  | 7•567157-01          | 3.265608-01                    |
| 8.200000-01          | 6.563383=01 | 6.108601-01                | 1.765387+00 | 5.403688-01  | 7.330321-01          | 2.942311-01                    |
| 8.00000000001        | 6.304303-01 | 5.916325-01                | 1.594446+00 | 5:209426-C1  | 7:099590=01          | 2+657411-01                    |
| 7.800000-01          | 6.077663-01 | 5.728876-01                | 1.442970+00 | 5.039259-01  | 6.874651-01          | 2,404949#01                    |
| 7 600000-01          | 5.879135=01 | 5-545972-01                | 1.308033+00 | 4.890039=01  | 6:655167-01          | 2 180055-01                    |
| 7.400000-01          | 5.705045-01 | 5.367320-01                | 14187234+00 | 4.759088-DI  | 6:440784-01          | 1:978724-01                    |
| 7.200000-01          | 5.552269=01 |                            | 1.078590+00 | 44644117=01  | 6.231340-01          | 1.797651-01                    |
| 7.000000-01          | 5.418136-01 | 5.192617=01                | 94804572=01 | 4.543162-01  | 6.025872-01          | 1.634095-01                    |
| 6.800000=01          | 5.300355-01 | 5.021560-01<br>4.853850-01 | 8-914667-01 | 4.454531-01  | 5 . 824620-01        | 14485778-01                    |
| 6:600000-01          | 5.196952-01 |                            | 8-104755-01 | 4+376760=01  | 3 627035-01          | 1:350793-01                    |
| 6+4000000-01         | 5.106220-01 | 44689194=01                | 7.365255-01 | 4-308580-01  | 5.432778-01          | 1.227543-01                    |
| 6.200000-01          | 5.026676-01 | 4.527315-01                | 6.688108-01 | 4.248882-01  | 5-241527-01          | 1.114685-01                    |
| 6.0000CO=01          | 4.957029-01 | 4.367939=01                | 6.066512-01 | 4.196698-01  | 5.052977-01          | 1.011085-01                    |
| 5.800000-01          | 4.896147-01 | 4-210815-01                | 5.494716-01 | 4.151175-01  | 4.866842-01          | 9.157860-02                    |
| 5.600000-01          | 4.843037-01 | 4.055702-01                | 4.967836-01 | 4.111562-01  | 44682855-01          | 8 4 2 7 9 7 2 7 - 0 2          |
| 5.400000 <b>-</b> 01 | 4.796822-01 | 3.902379=01                | 4.481718-01 | 4.077194-01  | 44500766-01          | 71469529-02                    |
| 5.200000-01          | 4.756726-01 | 3.750638-01                | 4.032814-01 | 4.047479-01  | 4.320347-01          | 6.721356=02                    |
| 54000000-01          | 4.722058-01 | 3-600290-01                | 3.618088=01 | 44021888-01  | 4-141390-01          | 6.030147-02                    |
| 4.800000-01          | 4,692203-01 | 3.451158-01                | 3.234934-01 | 3-999950-01  | 3.963702-01          | 5.391556-02                    |
| 4.600000-01          | 4.666608-01 | 3.303085-01                | 2.881100=01 | 3.981240-01  | 3.787111-01          | 4.601895-02                    |
| 4.400000-01          | 4.644780-01 | 3-155926-01                | 2.554639-01 | 3+965376=01  | 3:611460-01          | 41257732-02                    |
| 4.200000-01          | 4,626272-01 | 3.009550=01                | 2.253855-01 | 3.952015-01  | 34435610-01          | 3.756425-02                    |
| 4.000000-01          | 4,610684-01 | 2#863842=QI                | 1.977258-01 | 3-940845-01  | 3+262436-01          | 3.295431-02                    |
| 3.800000-01          | 4.597652-01 | 2.718696-01                | 1.723535-01 | 3-931585-01  | 3.088827-01          | 2.872559402                    |
| 3.600000-01          | 4.586849-01 | 2 • 574023-01              | 1.491513-01 | 3.923982-01  | 24915687-01          | 2+485855-02                    |
| 3-400000-01          | 4.577979-01 | 2.429739-01                | 1=280132=01 | 3.917807-01  | 2.742931-01          | 2-133354-02                    |
| 3:200000-01          | 4.570774-01 | 2.285776=01                | 1.088427-01 | 3.912852-01  | 2.570487-01          | 1+814046-02                    |
| 3.000000-01          | 4.564994-01 | 2:142072-01<br>1:998576-01 | 9-155014-02 | 3.90B933-01  | 2.398291-01          | 1+525834-02                    |
| 2.800000-01          | 4.560421-01 |                            | 7.605102-02 | 3.905882-01  | 2.226290-01          | 1,267917-02                    |
| 2.600000-01          | 4.556862-01 | 1.855242-01                | 6.226463-02 | 3-903551-01  | 2.054441-01          | 1.037744-02                    |
| z.400000-01          | 4.554143-01 | 1.712034-01                | 5.011237-02 | 3.901809-01  | 1.882705-01          | 8.352062-03                    |
| 2.200000-01          | 4,552111-01 | 1.568921-01                | 3.951653=02 | 3-900541-01  | 1.711055-01          | 6.586088-03                    |
| 2.000000-01          | 4.550631-01 | 1.425879-01                | 3.039899~C2 | 3+899646-01  | 1.539465-01          | 5-066499-03                    |
| 1.800000-01          | 4.549587-01 | 1.282887~01                | 24268014=02 | 3.899039-01  | 1.367917-01          | 3.780023-03                    |
| 1.600000-01          | 4.548878-01 | 1-139931-01                | 1.627757=02 | 3.898645=01  | 1.196397-01          | 2.712928-03                    |
| 1.400000-01          | 4,548419-01 | 9.969975-02                | 1.110488-02 | 3.898406-01  | 1.024895-01          | 1.850813-03                    |
| 1.200000-01          | 4.548140-01 | 8.540791-02                | 7-070142-03 | 3.898271-01  | 8.534033=02          | 1.178357-03                    |
| 1.000000-01          | 4-547983-01 | 7.111694-02                | 4.074014=03 | 3-898204=01  | 6.819172-02          | 6.790023-04                    |
| 8.000000-02          | 4.547904-01 | 5.682644=02                | 2.007009-03 | 3.898175-01  | 5.104938-02          | 3.345015-04                    |
| 6.000000-02          | 4.547871-01 | 4-253615-02                | 7-450988-04 | 3.898166-01  | 3.389513-02          | 1-241831-04                    |
| 4.000000-02          | 4.547860-01 | 2.824594-02                | 1.411435-04 | 3.898164-01  | 1.674691-02          | 2.352392-05                    |
| 2.000000=02          | 4.547857-01 | 1+395576-02                | 19471437-04 |              |                      | • •                            |
|                      |             |                            |             |              |                      |                                |

TABLE 3
CYLINDRICAL BLAST WAVES IN AIR

| x                                  | g .                        | f                          | h                          | p/p <sub>R</sub>           | u/u <sub>R</sub>           | $\rho/\rho_{ m R}$         |
|------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1=000000+00                        | 1.028926+00                | 1+446279-01                | 1.169082+00                | <del></del>                |                            |                            |
| 9. 800000-01                       | 1.011010+00                | 1.343045-01                | 1.154486+00                | 1:000000+00<br>9:625681-01 | 1.000000+00                | 1+000000+00                |
| 9.600000-01                        | 9.950326-01                | 1.249457-01                | 1.141405+00                | 94670599-01                | 9.286212-01                | 9±875150-01                |
| 9#400000-01                        | 9-808114-01                | 1.164911-01                | 1.129709+00                | 9.532385-01                | 8.639317-01<br>8.054537-01 | 9.763256-01                |
| 9.200000-01                        | 9-661526-01                | 1.058614-01                | 1.119255+00                | 94409355-01                | 7.527001-01                | 9.663213-01                |
| 9+000000-01                        | 94568655-01                | 1.019703-01                | 1-109899+00                | 9-299658-01                | 7.050528-01                | 9•573793-01<br>9•493764-01 |
| 8.800000-01                        | 9+467738-01                | 9.573181-02                | 14101505+00                | 9-201578-01                | 6-619181-01                | 9.421963-01                |
| 8.600000-01                        | 9,377197-01                | 9.006570-02                | 1.093950+00                | 9-113582-01                | 6.227409-01                | 9.357341×01                |
| 8.400000-01                        | 9.295656-01                | 8-469958-02                | 1.087126+00                | 9-034334-01                | 5.870209-01                | 9-298971-01                |
| 8 <b>-200000-01</b>                | 9.221934-01                | 8.016974-02                | 1.080939+00                | 8-962684-01                | 5.543173-01                | 9-246054-01                |
| 8.000000-01                        | 9•155024-01                | 7.582083-02                | 1.075310+00                | 8-897655-01                | 5.242477-01                | 9-197905-01                |
| 74800000-01                        | 9.094072-01                | 7.180519-02                | 1.070170+00                | 8.830417-01                | 4.964824-01                | 9-153937-01                |
| 7.600000-01                        | 9.038356-01                | 6.808193-02                | 1.065461+00                | 8.784266-01                | 4.707387-01                | 9-113653-01                |
| 74400000-01                        | 8,987260-01                | 6.461601-02                | 1,061132+00                | 8.734607-01                | 4:467743-01                | 9-076630-01                |
| 7-200000-01                        | 8.940264-01                | 6.137737-02                | 1.057143+00                | 8.488932-01                | 4.243813-01                | 9-042506-01                |
| 7.000000-01                        | 0.096923-01                | 5.834016-02                | 1.053456+00                | 8+644810-01                | 4.033812-01                | 9-010971-01                |
| 6.800000-01                        | 8.856856-01                | 5.548214-02                | 1.050041+00                | 8-607869-01                | 3.836199-01                | 8-981760-01                |
| 6.400000-01                        | 0.819736-01                | 5.278402-02                | 1.046871+00                | 8.571792-01                | 3.649644-01                | 8.954645-01                |
| 6.400000-01                        | 8.785280-01                | 5.022909-02                | 1.043923+00                | 8.538305-01                | 3.472988-Q1                | 8.929426-01                |
| 6.200000-01                        | 8.759244-01                | 4.780276-02                | 1.041177+00                | 8.507170-01                | 3-305225-01                | 8.905934-01                |
| 6.090000-01                        | 8.723415-01                | 4:549228-02                | 1.038614+00                | 8.478179-01                | 3-145471-01                | 8.884016~01                |
| 5.400000-01                        | 8.695607-01                | 4.328644-02                | 1.036221+00                | 8.451153-01                | 2•992953-01                | 8.863543-01                |
| 5.600000-01                        | 8.669657-01                | 4.117533-02                | 1.033983+00                | 8 • 425932-01              | 2-846984-01                | 8-844398-01                |
| 5+40 <b>000</b> 0-01<br>5+20000-01 | 8+645422-01                | 3.915018-02                | 1.031688+00                | 8.402379-01                | 2•706960-01                | 9-826481-01                |
| 5.000000-01                        | 8.622774-01                | 3.720320-02                | 1.029926+00                | 8.380368-01                | 2-572340-01                | 8:809699-01                |
| 4.800000-01                        | 8,601603-01<br>8,581609-01 | 3,532742-02                | 1,028088+00                | 8.359792-01                | 2 • 4 4 2 6 4 2 - 0 1      | 8.793975-01                |
| 4.600000-01                        | 8.563303-01                | 3.351658~02                | 1.026965+00                | 8.340554-01                | 2-317436-01                | 8.779236-01                |
| 4.400000-01                        | 8.546005-01                | 3+174508-02<br>3+006782-02 | 1.024749+00                | 8.322568-01                | 2+196332-01                | B.765418-01                |
| 4-200000-01                        | 8.529846-01                | 2.842021-02                | 1.023235+00<br>1.021816+00 | 8.305757-01                | 2.078978-01                | B.752465-01                |
| 4.000000-01                        | 8.514763-01                | 2.681805-02                | 1.020486+00                | 8.290052-01<br>8.275393-01 | 1+965057-01                | 8.740325-01                |
| 3.800000-01                        | 8-500697-01                | 24925752-02                | 1.019241+00                | 8.261723-01                | 1.854279-01                | B.728951-01                |
| 3.600000-01                        | 8-487600-01                | 2-373510-02                | 1.018076+00                | 8.248993-01                | 1:746380-01<br>1:641115-01 | 8.718303-01                |
| 3.400000-01                        | 8.475423-01                | 24224758-02                | 14016988+00                | 8.237259-01                | 1.538264-01                | 8.699029-01                |
| 3 200000-01                        | 8.464127-01                | 2.079198-02                | 1.015972+00                | 8.226181-01                | 1.437619-01                | 8 690338-01                |
| 3.000000-01                        | 8.453675-01                | 1.936552-02                | 1.015025+00                | 8.216022-01                | 1.338990-01                | 8.682237-01                |
| 2 8000000-01                       | 8.444032-01                | 1.796566-02                | 1.014143+00                | 8-206651-01                | 1.242199-01                | 8.674698-01                |
| 2.600000-01                        | 8-435170-01                | 1.659000-02                | 1.013325+00                | 8.198037-01                | 1.147082-01                | 8.667697-01                |
| 2.400000-01                        | 8,427061-01                | 1.523629-02                | 1.012566+00                | 8-190156-01                | 1.053483+01                | 8+661208-01                |
| 2 - 200000-01                      | 8.419681-01                | 1-390245-02                | 1.011865+00                | 8.182984-01                | 9 612569-02                | 8.655208-01                |
| 2.000000-01                        | 8.413010-01                | 1.258650-02                | 1.011217+00                | Ba176500+01                | 8.702682-02                | 8-649672-01                |
| 1.800000-01                        | 8-407027-01                | 1.128659-02                | 1.010422+00                | 8+170686-01                | 7-803882-02                | 0.644575-01                |
| 1.600000-01                        | 8.401718-01                | 1.000097-02                | 1.010074+00                | 8.165526-01                | 6.914966-02                | 8-639889-01                |
| 1-400000-01                        | 8.397066-01                | 84728020-03                | 1,009570+00                | 8.161005-01                | 6.034812-02                | 8+635581-01                |
| 1+200000-01                        | 8,393059-01                | 7.466271-03                | 1.009106+00                | 8.157111-01                | 5-162401-02                | 8.631611-01                |
| 1.000000-01                        | 6.389688-01                | 6.214459-03                | 1.008674+00                | 8.153834-01                | 4-296861-02                | 8-627920-01                |
| 8.000000-02                        | 8.386941-01                | 4.971727-03                | 1.008265+00                | 8-151165-01                | 3-437599-02                | 8.624417-01                |
| 6.000000-02                        | 8.384814-01                | 3.738204-03                | 1.007858+00                | 8.149097-01                | 2.584705-02                | 8.620940-01                |
| 4.000000-02                        | 8.383300-01                | 2.517370-03                | 1.007413+00                | 8.147626-01                | 1.740584-02                | 8-617130-01                |
| 2.000000-02                        | 8.382396-01                | 1.332644-03                | 1.006795+00                | 8.146747-01                | 9.214294-03                | 8-611640-01                |
|                                    |                            |                            |                            |                            |                            |                            |

| ×                          | g                    | f                           | h                          | p/p <sub>R</sub>                  | u/u <sub>R</sub>           | p∕p <sub>R</sub>           |
|----------------------------|----------------------|-----------------------------|----------------------------|-----------------------------------|----------------------------|----------------------------|
|                            | 1.050926+00          | 2.546300-01                 | 1.341635+00                | 1-000000+00                       | 1.000000+00                | 1-000000+00                |
| 1.600000+00                | 1.025066+00          | 2.415823-01                 | 1.317771+00                | 9.753932-01                       | 9.487584-01                | 9-822271-01                |
| 9.800000-01<br>9.600000-01 | 1.000995+00          | 2.291083-01                 | 1.295414+00                | 9.524488-01                       | 8 <b>.997496-</b> 01       | 9.655631-01                |
| 9.400000-01                | 9.786415-01          | 2.172242-01                 | 1.274507+00                | 9,312183-01                       | 8.530976-01                | 9.499793-01                |
|                            | 94579243-01          | 2.059373-01                 | 1.254999+00                | 9.115051-01                       | 8.087708-01                | 9:354368-01                |
| 9 200000-01<br>9 000000-01 | 9.387553-01          | 1-952459-01                 | 1,236832+00                | <b>8.9326</b> 50-01               | 7 <b>.667829-</b> 01       | 9.218978-01                |
|                            | 9.210409-01          | 1.851402-01                 | 1.219940+00                | 8.764090-01                       | 7+270949-01                | 9.093064-01                |
| 8.600000-01<br>8.600000-01 | 9.046845-01          | 1.756032-01                 | 1.204246+00                | 8.608452 <u>-</u> 01              | 6 <u>-896406-01</u>        | 8-976107-01                |
| B.400000-01                | 8-895887-01          | 1.666124-01                 | 1,189683+00                | 8 <b>-464</b> 809-01              | 6.543315-01                | 8.867542-01                |
| B.200000-01                | 8.756578-01          | 1.581412-01                 | 1.176167+00                | 8.332250-01                       | 6.210630-01                | 8 • 766798-02              |
| 8.000000-01                | 8.627989-01          | 1.501603-01                 | 1.163624+00                | 8.209893-01                       | 5.697197-01                | 0.673307-01                |
| 7.800000-01                | 8.509240-01          | 1.426388-01                 | 1.151981+00                | 8.09 <b>689</b> 8-01              | 5-601808-01                | 8,586520-01                |
| ,,,,,,,,                   | 8.399503-01          | 1.355456-01                 | 1.141166+00                | 7.992478-01                       | 5.323238-01                | 8.505911-01                |
| 7.600000-01<br>7.400000-01 | 8.298010-01          | 1.288498-01                 | 1.131114+00                | 7.895904-01                       | <u>5.060275-01</u>         | 8-430987-01                |
| 7.200000-01                | 8.204054-01          | 1.225215-01                 | 1.121763+00                | 7.806501-01                       | 4.811748-01                | 8.361287-01                |
| 7.000000-01                | 8.116990-01          | 1.165324-01                 | 1.113056+00                | 7.723656-01                       | 4.576539-01                | B.296385-01                |
| 6.800000-01                | 8.036230-01          | 1.108556-01                 | 1.104940+00                | 7 <b>.6468</b> 09-01              | 4.3535 <del>94</del> -01   | 8.235892-01                |
| 6.600000-01                | 7-961243-01          | 1-054659-01                 | 1.097368+00                | 7.57 <b>5456</b> -01              | 4.141929-01                | 8-179449-01                |
|                            | 7.891549-01          | 1.003402-01                 | 1+090295+00                | 7.509140-01                       | 3.940628-01                | 8-126734-01                |
| 6.400000-01                | 7.826717-01          | 94545686-02                 | 1.083683+00                | 7.447449-01                       | <u>3.748846-01</u>         | 8 <u> </u>                 |
| 6.200000-01<br>6.000000-01 | 7.766357-01          | 9.079614-02                 | 1.077496+00                | 7.390014-01                       | 3.565807-01                | 8.031330-01                |
| 5.800000-01                | 7.710121-01          | 8.633983-02                 | 1-071700+00                | 7.336503-01                       | 3 <b>.</b> 390796-01       | 7 <b>.988133-</b> 01       |
| 5.600000-01                | 7-657695-01          | 8.207125-02                 | 1.066268+00                | 7 <b>.286617-</b> 01              | 3,223,58-01                | 7.947639-01                |
| 5.400000-01                | 7.608797-01          | 7.797513-02                 | 1.061171+00                | 7.240088-01                       | 3.062292-01                | 7.909650-01                |
| 54200000-01                | 7.563173-01          | 7-403747-02                 | 1.056386+00                | 7.196676-01                       | 2.907650-01                | 7.873985-01                |
| 54000000-01                | 7.520596-01          | 7.024545-02                 | 1.051891+00                | 7 <b>.156162-01</b>               | 2.758727-01                | 7 840482-01                |
| 4.800000-01                | 7-480862-01          | 6.658729-02                 | 1.047667+00                | 7.118353-01                       | 2.615061-01                | 7.608993-01                |
| 4.600000-01                | 7.443784-01          | 6.305220-02                 | 1.043694+00                | 7.083072-01                       | 2.476229-01                | 7.779381-01                |
| 4.400000-01                | 7-409198-01          | 5.963024-02                 | 1.039956+00                | 7.050162-01                       | 2.341899-01                | 7.751523-01                |
| 4-200000-01                | 7.376953-01          | 5.631225-02                 | 1.036439+00                | 7.019480-01                       | 2.211533-01                | 7,725306-01                |
| 4-000000-01                | 7-346914-01          | 5.308980-02                 | 1,039128+00                | 6 <b>.990897-</b> 01              | 2.084978-01                | 7.700626-01<br>7.677987-01 |
| 3.800000-01                | 7.318960-01          | 4-995504-02                 | 1.030010+00                | <u>6.964296-01</u>                | 1.961868-01                | 7.655497-01                |
| 3.600000-01                | 7,292979-01          | 4.690072-02                 | 1,027073+00                | 6.939575-01                       | 1,841917-01                | 7.634872-01                |
| 3-400000-01                | 7.268873-01          | 4.392008-02                 | 1.024306+00                | 6.916637-01                       | 1.724859-01                | 7.618483-01                |
| 3.200000-01                | 7.246552-01          | 4.100676-02                 | 1.021698+00                | 6.895397-01                       | 1.610446-01                | 7-597101-01                |
| 3-000000-01                | 7.225935-01          | 3.815490-02                 | 1.019239+00                | 6.875779-01                       | 1.498445-01                | 7-579803-01                |
| 2.800000-01                | 7.206949-01          | 3,535881-02                 | 1.016918+00                | 6.857714~01                       | 1.388435-01                | 7.563461-01                |
| 2.600000-01                | 7,189528=01          | <u>3.261318=02</u>          | 1.014726+00                | 6.841137-01                       | 1-280807-01                | 7.547999-01                |
| 2.400000-01                | 7.173615-01          | 2+991289-02                 | 1+012651+00                | 6,825995-01                       | 1.174759-01                | 7-532324-01                |
| 2.200000-01                | 7.159154-01          | 2.725297-02                 | 1.010684+00                | 6.B12235-01                       | 1.070297-01                | 7.519376-01                |
| 2.000000-01                | 7.146100-01          | 2.462849-02                 | 1.008811+00                | 6.799814-01                       | 9+672268=02<br>8+653524=02 | 7.50601B-01                |
| 1.800000-01                | 7 <b>-134411-0</b> 1 | 2-203446-02                 | 1.007019+00                | 6.788691-01                       | 7.644673-02                | 7-493193-01                |
| 1.600000-01                | 7.124048-01          | 1.946563-02                 | 1.005290+00                | 6.778830-01                       | 6.643407 <u>-02</u>        | 7-480557-01                |
| 1-400000-01                | 7.114980-01          | 1-691610-02                 | 1 <u>003603+00</u>         | <u>6.770202-01</u><br>6.762777-01 | 5.546912-02                | 7-468061-01                |
| 1.200000-01                | 7.107178-01          | 1.437873-02                 | 1,001927+00                | 6.756533-01                       | 4.651304-02                | 7.455812-01                |
| 1.000000-01                | 7.100616-01          | 1,184361-02                 | 1.000214+00<br>9.983986-01 | 6.751449-01                       | 3.650222-02                | 7-441764-01                |
| 8.000000-02                | 7.095273-01          | 9,294559-03                 | 9.963412-01                | 6.747507-01                       | 2.630628-02                | 7.426429-01                |
| 6.000000-02                | 7.091130-01          | 6,698367-03                 | 9.937864-01                | 6.744688-01                       | 1.556026-02                | 7,407163-01                |
| 4.000000-02                | 7.088167-01          | 3.962114-03<br>6.341394-04  | 9.896106-01                | 6.742998 <u>-01</u>               | 2.490485-03                | 7.277752-01                |
| 2.000000-02                | 7 <u>.086349-01</u>  | D <u> 9 7 4 3 3 7 1 4 7</u> | <u> </u>                   | <del></del>                       |                            | -                          |
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| 1.000000+00                | 1.081693+00                | 4+081432-01                |  |                            | · R                                     | P' PR                             |
| 9. 800000-01               | 1.043571+00                | 3.924 <u>047-01</u>        | 1# <b>689655+00</b><br>1# <b>645818+00</b> | 1.0000000+05               | 1=000000+00                             | 1.000000+00                       |
| 9.6000 <del>0</del> 0-01   | 1.007477+00                | 3.769473-01                | 1.603073+00                                | 9 <u>448110-01</u>         | <u>9-613918-01</u>                      | 9 <u>~737597~01</u>               |
| 9:400000-01                | 9.738654-01                | 3-618134-01                | 1.562873+00                                | 9•316260-01<br>9•003662-01 | 9.235211-01                             | 9-487579-01                       |
| 9:200000-01                | 9-420516-01                | 3-470248-01                | 1.524665+00                                | 8.709534-01                | 8:864431-01                             | 9.249657-01                       |
| 9.000000-01                | 9.121523-01                | 3-326014-01                | 14488397+00                                | 8-438107-01                | 8.502108-01                             | 9.023528-01                       |
| 5+800 <del>000</del> -01   | 8.840848-01                | 3+185617-01                | 1-454013+00                                | 8-173614-01                | 8 • 148736-01                           | 4+608260-01                       |
| 8 • 600000-01              | 8,577665-01                | 3-049213-01                | 1.421456+00                                | 7.930295-01                | 74804763-01                             | 4,605386-01                       |
| 8.400000-01                | 8.331154-01                | 2.916933-01                | 1.390664+00                                | 7.702388-01                | <u>7•470574-01</u><br>7•146488-01       | 9 +412700-01                      |
| 8+200000-01                | 8.100493-01                | 2.788875-01                | 14361573+00                                | 7.489136-01                |   | 8+230462-01                       |
| 5.000000-01                | 7.684870-01                | 2-665103-01                | 1.334116+00                                | 7.289786-01                | 6+832745-01                             | 058291-01                         |
| 7.800000-01                | 7.683476-01                | 2.545649-01                | 1.308225+00                                | 7-103591-01                | 6+529504-01                             | 7-895792-01                       |
| 7+600000-01                | 74495514~01                | 2.430508-01                | 1.283627+00                                | 6-929815-01                | 6.236841-01                             | 7+742555-01                       |
| <u>7+400000-01</u>         | 7-320202-01                | 2.319645-01                | 1.260851+00                                | 6.767734-01                | 9.954746-01                             | 7.596160-01                       |
| 7+200000-01                | 7.156778-01                | 2-212995-01                | 1.239223+00                                | 6.616644-01                | <u>5•683132-01</u><br>5•421838-01       | 7-462179-01                       |
| 7+000000-01                | 7.004503-01                | 2-110465-01                | 1-218671+00                                | 6.475861-01                | • •                                     | 7.334179-01                       |
| 6.800000-01                | 6.862663-01                | 2.011942-01                | 1.199723+00                                | 6-344727-01                | 5:170641-01<br>4:9 <del>29</del> 258-01 | 7-213729-01                       |
| 6 • 600000-01              | 6.730579-01                | 1.917290-01                | 1.181707+00                                | 6.222611-01                | 4+697362-01                             | 7-100401-01                       |
| 6 400000-01                | 6.607602-01                | 1.826363-01                | 1.164734+00                                | 6-108915-01                | 4.474591-01                             | 6.993776-01                       |
| 6-200000-01                | 6.493118-01                | 1.739001-01                | 1-148799+00                                | 6.003072-01                | 4:260554-01                             | 4.893445~01                       |
| 6+000000-01                | 6.386552-01                | 1.655037-01                | 1.133776+00                                | 5.904548-01                | 4.054842-01                             | <u> </u>                          |
| 5.800000-01                | 6•287962 <b>-</b> 01       | 1-574300-01                | 1.119624+00                                | 5.812844-01                | 3.857034-01                             | 6-710102-01                       |
| 5+600000-01                | 6.195045-01                | 1:496617-02                | 1-106284+00                                | 5.727495-01                | 3:666713-01                             | 6.626345-01                       |
| 5+400000-01                | 6.109134-01                | 1-421816-01                | 1.093702+00                                | 5-648068-01                | 3 • 483450-01                           | 0 B47398-01                       |
| 5-200000-01                | 6.029196-01                | 1.349726-01                | 1.081825+00                                | 5-574162-01                | 3-306830-01                             | 6.472983-01                       |
| 5.000000-01                | 5.954829-01                | 1.280183-01                | 1.070603+00                                | 5.505409-01                | 3 136448-01                             | 4.402639-01                       |
| 4+800000-01                | 5.685668-01                | 1.213023-01                | 1.059989+00                                | 5.441467-01                | 2.971996-01                             | <u>6,336221-01</u><br>6,273404-01 |
| 44600000-01                | 5,821373-01                | 1-148091-01                | 1.049939+00                                | 5.382024-01                | 2.812824-01                             | 6:213926-01                       |
| 4.400000-01                | 5.761634-01                | 1.085239-01                | 1,040411+00                                | 5-326794-01                | 2.658835-01                             | 6.157538-01                       |
| 4.200000-01                | 5.706168-01                | 1.024321-01                | 1.031366+00                                | 5.275514-01                | 2.509587-01                             | 6.104003-01                       |
| 4+000000-01                | 5.654715-01                | 9+652016-02                | 1.022764+00                                | 5.227944-01                | 2+364745-01                             | 6-053097-01                       |
| 3-800000-01                | 5.607039-01                | 9+077501-02                | 1.014571+00                                | 5.183866-01                | 2.223988-01                             | 6+004602-01                       |
| 3.600000-01<br>3.400000-01 | 5.562923~Q1                | 8.518421-02                | 1.006749+00                                | 5-143080-01                | 2.087014-01                             | 3.958309-01                       |
| 3.200000-01                | 5.522171-01                | 7.973593-02                | 9.992633-01                                | F-105403-01                | 1.953531-01                             | 5.914009-01                       |
| 3-000000-01                | 5.484604-01                | 7 • 44 1892 - 02           | 9+920800-01                                | 5.070672-01                | 1.623264-01                             | 5.871495-01                       |
| 2.800000-01                | 5.450060-01                | 6.922247-02                | 9.851629-01                                | 5.038735-01                | 1 -695951-01                            | 5-690557-01                       |
| 2.600000-01                | 5-418391-01                | 6 • 413638-02              | 9.784751-01                                | 5.009456-01                | 1-571342-01                             | 5.790976-01                       |
| 24400000-01                | 5.389465-01<br>5.363161-01 | 5.91508B-02                | 9.719773-01                                | 4,982713-01                | 1.449197-01                             | 5.752520-01                       |
| 2.200000-01                |                            | 5.425663-02                | 9.656261-01                                | 44958394-01                | 1.329288-01                             | 3.714931-01                       |
| 2.000000-01                | 5.339369-01<br>5.317993-01 | 4.944464-02                | 9.593726-01                                | 4.936398-01                | 1.211394-01                             | 5-677921-01                       |
| 1.600000-01                | 5.298944-01                | 4.470619-02                | 9.531590-01                                | 4.916635-01                | 1.095302-01                             | 5-641146-01                       |
| 1.600000-01                |                            | 4-003278-02                | 9.469149-01                                | 4.899024-01                | 9.808033-02                             | 5-604191-01                       |
| 1.400000-01                | 5.282143-01<br>5.267520-01 | 3+541597-02                | 9+405503-01                                | 4.863491-01                | 8.676915-02                             | 5.566523-01                       |
| 1.200000-01                | 5.255012-01                | 3-084719-02                | 9.339448-01                                | 4.869971-01                | 7.557563-02                             | 5.527430-01                       |
| 1.000000-01                | 5.244563-01                | 2.631735-02                | 9.269289-01                                | 4.858407-01                | 6.447753-02                             | 5-485907-01                       |
| 8.000000-02                | 5.236122-01                | 2.181608-02                | 9.192467-01                                | 4.848747-01                | 5-344940-02                             | 5-440441-01                       |
| 6.000000-02                | 5.229643-01                | 1.732973-02                | 9.104805-01                                | 4.640943-01                | 44245784-02                             | 5.388559-01                       |
| 4.000000-02                | 5.225081-01                | 1.283567-02                | 8,998660-01                                | 4-834953-01                | 3 • 144 740-02                          | B+325739-01                       |
| 2.000000-02                | 5-222383-01                | 8:279255-03<br>3:412994-03 | 8.857421-01                                | 4.830786-01                | 2.028418-02                             | 5.242148-01                       |
|                            | - 4                        | 15477 514-62               | 8_631775-01                                | 4 <u>4828241-01</u>        | 8 <u>•361438-03</u>                     | -108603-01                        |
|                            |                            |                            |  |                            |   |                                   |

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| x                           | g                  | f                   | ħ                    | p/p <sub>R</sub>             | u/u <sub>R</sub>              | $\rho/\rho_{ m R}$             |
| 1 0000000000                | 1.101562+00        | 5.078123-01         | 2.031745+00          | 1.000000+00                  | 1.000000+00                   | 1.000000+00                    |
| 1.0000000+00<br>9.800000-01 | 1.053287+00        | 4.905196-01         | 1.961869+00          | 9.561758-01                  | 9 659466-01                   | <u>9-6560</u> 76-01            |
| 9.600000~01                 | 1.007874+00        | 4.734281-01         | 1,895365+00          | 9-149491-01                  | 9.322894-01                   | 9.328751-01                    |
| 94400000-01                 | 9.651804-01        | 4.565570-01         | 1.832115+00          | 8.761922-01                  | 8:990463-01                   | 9.017442-01                    |
| 9.200000-01                 | 9.250736-01        | 4.399260-01         | 1.772004+00          | 8.997832-01                  | 8.663161-01                   | <b>0.721<del>584</del>-</b> 01 |
| 9.000000-01                 | 8.874249-01        | 4.235550-01         | 1.714919+00          | 8.056057-01                  | 8.340778-01                   | B.440622-01                    |
| 8.800000-01                 | 8.521115-01        | 4-074498-01         | 1.660752+00          | 7.735481-01                  | 8.023905-01                   | 8+174016-01                    |
| 8.600000-01                 | 8.190155-01        | 3.916718-01         | 1.609393+00          | 7.435035-01                  | 7 <u>• 712</u> 92 <u>40</u> 1 | 7-921232-01                    |
| 8.400000-01                 | 74880236-01        | 3.761975-01         | 1,560734+00          | 7.153690-01                  | 7:4081 <del>9</del> 9-01      | 7.681742-01                    |
| 8.200000-01                 | 7.590266-01        | 3.610584-01         | 1.514671+00          | 4.890455-01                  | 7.110076-01                   | 7.455022-01                    |
| 8.000000-01                 | 7.319191-01        | 3.462704-01         | 1.471096+00          | 6.644373-01                  | 6.816866-01                   | 7.240554-01                    |
| 7.800000-01                 | 7.065992-01        | 3.318476-01         | 1.429905+00          | 6.414518-01                  | 6.534848~01                   | 7-037816-01                    |
| 7.600000-01                 | 6.829684-01        | 3.178018-01         | 1.390992+00          | 6•1 <del>99998</del> -01     | 8+258254-01                   | 6+846290-01                    |
| 7.400000-01                 | 6.609316-01        | 3.041424-01         | 1,354252+00          | 5 <b>-999947-</b> 01         | 5 <u>•987268-</u> 01          | 4 <u>+665459-01</u>            |
| 7-200000-01                 | 6.403965-01        | 2.908762-01         | 1.319579+00          | 5.813529-01                  | 5.728025-01                   | 6.494807-01                    |
| 7.000000-01                 | 6-212745-01        | 2+780071-01         | 1.286871+00          | 5.639939-01                  | <b>5</b> ,474603-01           | 6.333818-01                    |
| 64800000-01                 | 6.034800-01        | 2-655364-01         | 1.256022+00          | 5.478400-01                  | 5.229026-01                   | 6.181984-01                    |
| 6.600000-01                 | 5.869308-01        | 2-534627-01         | 1.226930+00          | 5.328167-01                  | 4.991267-01                   | 6.038798-01                    |
| 6.400000-01                 | 54715484-01        | 2.417820-01         | 1.199495+00          | 5.188525-01                  | 4.761246-01                   | 5.903764-01                    |
| 6 = 200000 = 01             | 54972577-01        | 2.304877-01         | 1.173616+00          | 3.058794-01                  | 4,538837- <u>01</u>           | 5 <u>-776395-01</u>            |
| 64000000-01                 | 5.439875-01        | 2.195715-01         | 1.149198+00          | 4.938327-01                  | 4,323871-01                   | 3,456212-01                    |
| 5.800000-01                 | 5.316702-01        | 2.090228-01         | 1-126146+00          | 4.826510-01                  | 4.116143-01                   | 5,542754-01                    |
| 5.600000-01                 | 5.202423-01        | 1-988297-01         | 1.104369+00          | 4.722767-01                  | 1.915417-01                   | 5,425569-01                    |
| 5.400000-01                 | 5.096439-01        | 1.689788-01         | 1.083779+00          | 4.626555-01                  | 3.721491-01                   | 5.334226-01                    |
| 5.200000-01                 | 4.998192-01        | 1.794559-01         | 1.064290+00          | 4.537366-01                  | 3.533903-01                   | 5.238304-01                    |
| 5.000000-01                 | 4-907159-01        | 1.702459-01         | 1,045821+00          | <u>4,</u> 45472 <u>7-</u> 01 | 3 • 352536-01                 | 5.147402-01                    |
| 4.800000-01                 | 4.822856-01        | 1.613333-01         | 1,028293+00          | 4.378196-01                  | 3.177026-01                   | 5.061133-01                    |
| 4.600000-01                 | 4.744834-01        | 1.527021-01         | 1,011631+00          | 4.307367-01                  | 3.007058-01                   | 4.979123-01                    |
| 4.400000-01                 | 4.672676-01        | 1.443365-01         | 9.957615-01          | 4.241862-01                  | 2.842319-01                   | 4,901016-01                    |
| 4.200000-01                 | 4.605999-01        | 1.362204-01         | 9.806142-01          | 4.181333-01                  | 2.682496-01                   | 4.826463-01                    |
| 4.000000-01                 | 4.544453-01        | 1,283382-01         | 9,461205-01          | 4.125461-01                  | 2.527276-01                   | 4.755126-01                    |
| 3.800000-01                 | 4.487713-01        | 1,206742-01         | 9,522134-01          | 4 <u>,073959-01</u>          | 2.376354-01                   | 4 <u>.686677-01</u>            |
| 3.600000-01                 | 4.435483-01        | 1.132132-01         | 9.388262-01          | 4.026538-01                  | 2.229430-01                   | 4.620787-01                    |
| 3.450900-01                 | 4.387493-01        | 1.059404-01         | 9.258927-01          | 3.982979-01                  | 2.086211-01                   | 4.557130-01                    |
| 3.200000-01                 | 4.343495-01        | 9.884115-02         | 9.133452-01          | 3.943031-01                  | 1,946411-01                   | 4.495373-01<br>4.435171-01     |
| 3.000000-01                 | 4.303262-01        | 9.190144-02         | 9,011138-01          | 3.906508-01                  | 1+809752-01                   | 4-374161-01                    |
| 2.800000-01                 | 4.266591-01        | 8.510742-02         | 8.891244-01          | 3.873218-01                  | 1.673962-01                   | 4.917948-01                    |
| 2.600000-01                 | 4.233294-01        | 7.844561-02         | 8,7729 <u>7</u> 1-01 | 3 - 842991-01                | 1-544776-01                   | 4.260094-01                    |
| 2.400000-01                 | 4.203201-01        | 7.190274-02         | 8.655426-01          | 3.815672-01                  | 1+415931-01                   | 4.202097-01                    |
| 2.200000-01                 | 4.176157-01        | 6.546561-02         | 8.537589-01          | 3.791122-01                  | 1,269169-01                   |                                |
| 2.000000-01                 | 4.152022-01        | 5.912096-02         | 8.418252-01          | 3,769212-01                  | 1+164229-01                   | 4.143360-01<br>4.053157-01     |
| 1.800000-01                 | 4.130669-01        | 5.285507-02         | 8,295935-01          | 3.749828-01                  | 1.040839-01                   |                                |
| 1.600000-01                 | 4.111982-01        | 4.665327-02         | 8.168752-01          | 3.732863-01                  | 9.187108-02                   | 4:020559-01<br>3:954337-01     |
| 1.400000-01                 | 4,095853-01        | 4.049892-02         | <u>8.034205-01</u>   | 3.718222-01                  | 7.975175-02                   | 3-482774-01                    |
| 1.200000-01                 | 4.082185-01        | 3.437147-02         | 7.888812-01          | 3.705814-01                  | 8.748539-02                   | 3.809353-01                    |
| 1.000000-01                 | 4.070886-01        | 2.824216-02         | 7.727445-01          | 3.695556-01                  | 5.561595-02<br>4.344775-02    | 3.712077-01                    |
| 84000000-02                 | 4.061866-01        | 2.206330-02         | 7.541995-01          | 3,687368-01                  | 3.098833-02                   | 3.402044-01                    |
| 6.000000-02                 | 4.055036-01        | 1.573626-02         | 7.218435-01          | 3.681168-01                  | 1.769000-02                   | 3.459830-01                    |
| 4.000000-02                 | 4.050290-01        | 8.983201-03         | 7.029492-01          | 3,676859-01                  | 8.852013-04                   | 3,257164-01                    |
| 2.000000-02                 | 4 <u>047430-01</u> | 4.495 <u>161-04</u> | 6:617727-01          | 3-674263-01                  | A LANCATA TA A.L.             | - <u> </u>                     |
| •                           |                    |                     |                      |                              |                               |                                |

| x                          | g                          | f                          | h                          | p/p <sub>R</sub>                                     | u/u <sub>R</sub>           | $ ho/ ho_{ m R}$           |
|----------------------------|----------------------------|----------------------------|----------------------------|--|----------------------------|----------------------------|
| 1.0000000+00               | 1.115226+00                | 5-761917-01                | 2,359224+00                | 1.000000+00  | 1.000000+00                | 1-000000+00                |
| 9+800000-01<br>9+600000-01 | 1.057798+00<br>1.004110+00 | 5-577077-01                | 2-257801+00                | 9-484983-01  | 9+680212-01                | 9-670103-01                |
| 9.400000-01                | 9-539612-01                | 5.394432-01<br>5.213558-01 | 2.161913+00<br>2.071294+00 | 9.003642-01  | 9-363192-01                | 9-163663-01                |
| 94200000-01                | 9-071941-01                | 5.034438-01                | 1.985692+00                | 8 <sub>4</sub> 553969-01<br>8 <sub>4</sub> 134081-01 | 9+049246-01<br>9+738692-01 | 6.77 <del>95</del> 59-01   |
| 94000000-01                | 8.634910-01                | 4.857864-01                | 1.904865+00                | 7-742204-01  | 8-491863-01                | 8.434738-01<br>8.674117-01 |
| 84800000-01                | 8.226655-01                | 4-683431-01                | 14828581+00                | 7-376668-01  | 84129098-01                | 7.750775-01                |
| 8 4 600000-01              | 7.846622-01                | 4.511537-01                | 14756619+00                | 7.035901-01  | 7.830739-01                | 7.445752-01                |
| 8.400000-01                | 7,492556-01                | 4.342381-01                | 1.688766+00                | 6.718418-01  | 7.537131-01                | /e158149h01                |
| 8-200000-01                | 7.162894-01                | 4-176155-01                | 1.624816+00                | 6.422816-01  | 7-248610-01                | 6-287080-01                |
| 8+000000-01                | 6.856155-01                | 4.013047-01                | 1.564571+00                | 6-147770-01  | 6.965502-01                | 6-631722-01                |
| 7.600000-01                | 6 <sub>4</sub> 570938-Q1   | 3.853233-01                | 1.507840+00                | 5.892022-01  | 6.688111-01                | 6.391255-01                |
| 7.600000-01                | 6.305916-01                | 3.696877-01                | 1.454436+00                | 5.654382-01  | 6+416721-01                | 6-164892-01                |
| 7-400000-01                | 6.059827-01                | 3.544121-01                | 1.404179+00                | 5-433 <u>719-01</u>                                  | <u>6-151581-01</u>         | <u>5-951868-01</u>         |
| 7.200000-01                | 5.831479-01                | 3.395090-01                | 1.356893+00                | 5+228960-01  | 5.892905-01                | 3.751439-01                |
| 74000000-01                | 5.619718-01                | 3.249883-01                | 1,312408+00                | 5.039083-01  | 5+640867-01                | 5 <b>•56</b> 2881-01       |
| 6.800000-01                | 5-423482-01                | 3-108574-01                | 1.270558+00                | 4-863122-01  | 5.395596-01                | 5.325493-01                |
| 6+690000-01<br>6+400000-01 | 5.241741-01                | 2.971211-01                | 1,231182+00                | 4.700189-01  | 5-157174-01                | 9.218590-01                |
| 6.200000-01                | 5.073523-01<br>4.917913-01 | 2.837814-01<br>2.708374-01 | 1.194123+00<br>1.159230+00 | 4.549322-01  | 4.925633-01                | 3-061510-01                |
| 6.000000-01                | 4.774043-01                | 2.582859-01                | 1,126357+00                | <u>4+409789-01</u><br>4+280784-01                    | 4+700969-01                | <u>4.913610-01</u>         |
| 5 a BODOGO - 01            | 4.641098-01                | 2.461209-01                | 1.095360+00                | 4.161575-01  | 4+483104-01<br>4+271955-01 | *•774268-01                |
| 5-600000-01                | 44518312-01                | 2.343345-01                | 1.066105+00                | 4.051476-01  | 4.067977-01                | 4.642884-01<br>4.518880-01 |
| 5.400000-01                | 4-404970-01                | 2.229167-01                | 1.038460+00                | 3.949B44-01  | 3-869196-D1                | 4.401700-01                |
| 5+200000-01                | 4.300402-01                | 24118555-01                | 1.012298+00                | 3-856080-01  | 3-677207-01                | 4.290810-01                |
| 5.000000-01                | 4,203985-01                | 2.011380-01                | 9.874995-01                | 3.769625-01  | 3.491181-01                | 4-185697-01                |
| 4.800000-01                | 4.115142-01                | 1.907498-01                | 9.639477-01                | 3.689961-01  | 3-310871-01                | +.085869-01                |
| 4.600000-01                | 4.033337-01                | 1.806756-01                | 94415312-01                | 9:616609-01  | 3-136012-01                | 3+990852-01                |
| 4.400000-01                | 3.958078-01                | 1.708997-01                | 9:201424-01                | 3:549126-01  | 2+966330-01                | 3.900192-01                |
| 4-200000-01                | 3.888910-01                | 1.614058-01                | 8,996775-01                | 3+487104-01  | 2:801543-01                | 3 <b>:819447-01</b>        |
| 4.000000-01                | 3.825414-01                | 1.521774-01                | 8.600353-01                | 3.430169-01  | 2+641365-01                | 3.730191-01                |
| 3.800000-01                | 3.767208-01                | 1.431981-01                | 8.611171-01                | 3.377977-01  | 2 <u>4485509-01</u>        | <u>3-650002-01</u>         |
| 3.600000-01                | 3.713941-01                | 1+344514-01                | 8-428249-01                | 3.330213-01  | 2.333691-01                | 3.572467-01                |
| 3.400000-01<br>3.200000-01 | 34665291-01<br>34620966-01 | 1.259211-01                | 8+250608-01                | 3.286590-01  | 2.185631-01                | 3.497171-01                |
| 3.000000-01                | 3.580699-01                | 1+175914-01<br>1+094467-01 | 8.077252-01<br>7.907153-01 | 3.246844-01<br>3.210737-01                           | 2:041051-01                | 3-423691-01                |
| 2.800000-01                | 3.544245-01                | 14014720-01                | 7.739225-01                | 3.178050-01  | 1.899682-01                | 3.351591-01                |
| 2.600000-01                | 3.511362-01                | 9.365248-02                | 74572293-01                | 3.148582-01  | 1•761263-01<br>1•625839-01 | 9.280412-01<br>3.209655-01 |
| 2-400000-01                | 3.481907-01                | 8.597419-02                | 7-405056-01                | 3.122153-01  | 1.492266-01                | 3.138768-01                |
| 2.200000-01                | 3.455635-01                | 7.842351-02                | 7-236030-01                | 3.098596-01  | 1.361208-01                | 3.067123-01                |
| 2.000000-01                | 3.432397-01                | 7.098749-02                | 7.063464-01                | 3.077758-01  | 1.232140-01                | 2.993978-01                |
| 1.800000-01                | 3.412095-01                | 6.365380-02                | 6.885228-01                | 3.059500-01  | 1.104548-01                | 2.918430-01                |
| 1.600000-01                | 3.394407-01                | 54641091-02                | 6.698625-01                | 3.043693-01  | 94791321-02                | 2.839335-01                |
| 1.400000-01                | 3.379377-01                | 4.924825-02                | 6.500091-01                | 3.030217-01  | 8 .546088-02               | 2.755182-01                |
| 1.200000-01                | 3.366819-01                | 4.215669-02                | 6.284677-01                | 3.018956-01  | 7.317194-02                | 2.663875-01                |
| 1.000000-01                | 3.356610-01                | 3.512944-02                | 6.045076-01                | 3.009802-01  | 6.097466 <b>~</b> 02       | 2.562316-01                |
| 8.000000-02                | 3.348630-01                | 2.816447-02                | 5.769586-01                | 3.002646-01  | 4.888546-02                | 2+445544-01                |
| 6.000000-02                | 3.342754-01                | 2.127161-02                | 5.437200-01                | 2,997377-01  | 3 • 692 143-02             | 2.304656-01                |
| 4.000000-02                | 3.338844-01                | 1.450103-02                | 5.002485-01                | 2.993871-01  | 2.516965-02                | 2.120395-01                |
| 2.000000-02                | 3.336735-01                | 8-142169-03                | 4.319164-01                | 2.991980-01  | 1+413248-02                | 1.830757-01                |
|                            |                            |                            |                            |  |                            |                            |

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|               |                                   |                          | -           |                            |                       |                  |
|---------------|-----------------------------------|--------------------------|-------------|----------------------------|-----------------------|------------------|
| ×             | g                                 | f                        | h           | p/p <sub>R</sub>           | u/u <sub>R</sub>      | ρ∕p <sub>R</sub> |
| 1.000000+00   | 1.125000+00                       | 6-250001-01              | 24666668+00 | 1.000000+00                | 1.000000+00           | 1.000000+00      |
| 9.800000-01   | 1.059129+00                       | 6.056013-01              | 2.527595+00 | 9-414430-01                | 9.689619-01           | 9.478479-01      |
| 9.600000-01   | 9.980686-01                       | 5-863474-01              | 24397385+00 | 8.871721-01                | 9.381556-01           | 8.990192-01      |
| 9.400000-01   | 9.414951-01                       | 5.672560-01              | 2.275491+00 | 8.368845-01                | 9.076094-01           | 8-533088-01      |
|               | 8.890873-01                       | 5.483456-01              | 2.161399+00 | 7.902998-01                | 8.773527-01           | 8.105243-01      |
| 9.200000-01   | 8-405527-01                       | 5-296354-01              | 2.054628+00 | 7.471580-01                | 8-474165-01           | 7.704851-01      |
| 9.000000-01   | 7.956196-01                       | 5.111456-01              | 14954723+00 | 7-072174-01                | B.178328-01           | 7+130210-01      |
| 8.800000-01   |                                   | 4.928967-01              | 1.861260+00 | 8.702541-01                | 7.886345-01           | 6.979724-01      |
| 8-600000-01   | 7.540358-01                       | 4.749093-01              | 1.773837+00 | 6.360595-01                | 7.598546-01           | 6.451885-01      |
| 8.400000-01   | 7-155669-01                       | 4.572040-01              | 1.692073+00 | 6.044398-01                | 7.313262-01           | 6+845271-01      |
| 8.200000-01   | 6.799948-01                       | 44372040-01              | 1.615611+00 | 5.752146-01                | 7.036814-01           | 6.D58539-01      |
| 8.000000-01   | 6-471164-01                       |                          | 1.544112+00 | 5.482154-01                | 6.763513-01           | 5.790417-01      |
| 7.800000-01   | 6.167424-01                       | 4.227197-01              | 1.477254+00 | 5-232853-01                | 6.495649-01           | 54539700-01      |
| 7.600000-01   | 5.886960-01                       | 4-059781-01              | 1.414732+00 | 5.002775-01                | 6.233485-01           | 5-305244-01      |
| 7.400000-01   | 5.628122-01                       | 3.895929-01              | 1,356257+00 | 4.790549-01                | 5-977257-01           | 54085963-01      |
| 7.200000-01   | 5.389368-01                       | 3.735787-01              |             | 4.594892-01                | 5.727161-01           | 4.880821-01      |
| 7.000000-01   | 5.169253-01                       | 3.579477-01              | 1.301553+00 | 4.414604-01                | 5-489353-01           | 4.488835-01      |
| 6.800000-01   | 4,966430-01                       | 3 4 4 2 7 0 9 6 - 0 1    | 1.250357+00 | 4.248563-01                | 5.245945-01           | 4.509070-01      |
| 6.600000-01   | 4.779633-01                       | 3+278716-01              | 1,202419+00 |                            | 5.015003-01           | 4-340635-01      |
| 6.400000-01   | 4.607685-01                       | 3-134378-01              | 1.157503+00 | 4.095720-01                | 4.790548-01           | 4.182681-01      |
| 64200000-01   | 4.449481-01                       | 2+994093-01              | 1.119382+00 | 3.955094-01                |                       | 4.034404-01      |
| 64000000-01   | 4 <b>.</b> 30 <del>3994-</del> 01 | 2.857845-01              | 1.075842+00 | 3.825772-01                | 4.572551-01           | 3_895041-01      |
| 5.800000-01   | 4.170266-01                       | 2.725591-01              | 1.038678+00 | 3.706903-01                | 4.360945-01           |                  |
| 5.600000-01   | 44047408-01                       | 2.597261-01              | 1.003697+00 | 3,597696-01                | 4.155617-01           | 3.763864-01      |
| 5.400000-01   | 3 <b>.9345<del>9</del>4-</b> 01   | 2.472763-01              | 9.707170-01 | 3,497417-01                | 3.956419-01           | 3,640187-01      |
| 5.200000-01   | 3.891060-01                       | 2.351983-01              | 9,395627-01 | 3.405387-01                | 3.763172-01           | 3,523359-01      |
| 5.000000-01   | 3.736100-01                       | 2.234793-01              | 9,100701-01 | 3,320976-01                | 34575467-01           | 3-412762-01      |
| 4.800000-01   | 3,649065-01                       | 2.121046-01              | B.820828-01 | 3,243613-01                | 3-393673-01           | 3.307809-01      |
| 4.600000-01   | 3.569955-01                       | 2.010588-01              | 8,554526-01 | 3.172760-01                | 3.216940-01           | 3-207946-01      |
| 4.400000-01   | 3,496423-01                       | 1.903253-01              | 8.300382-01 | 3.107931-01                | 3.045204-01           | 3-112642-01      |
| 4-200000-01   | 3.42 <b>9765-</b> 01              | 1.798871-01              | 8.057046-01 | 5.048680-01                | 2.876193-01           | 3-021391-01      |
| 4-000000-01   | 3.368923-01                       | 1.697266-01              | 7,823219-01 | 2.994598-01                | 2.715625-01           | 2.933706-01      |
| 3.600000-01   | 34313476-01                       | 1.598263-01              | 7.597642-01 | 2.945312-01                | 2+557220-01           | 2.849115-01      |
| 34600000-01   | 34263041-01                       | 1.501684-01              | 74379087-01 | 2.900481-01                | 2+402699-01           | 2.767157-01      |
| 3.400000-01   | 3.217268-01                       | 1.407354-01              | 7.166337-01 | 2+859794-01                | 2.251765-01           | 2.687376-01      |
| 3.200000-01   | 3.175840-01                       | 1.315100-01              | 6.958173-01 | 2.822969-01                | 2-104159-01           | 2.609314-01      |
| 3.000000-01   | 3.138465-01                       | 1.224752-01              | 6.753352-01 | 2.789747-01                | 1.959602-01           | 2.532506-01      |
| 2.800000-01   | 3.104880-01                       | 1 <b>-136144-</b> D1     | 6.550581-01 | 2.759893-01                | 1.817830-01           | 2.456467-01      |
| 2.600000-01   | 3.074841-01                       | 1.049116-01              | 6,348487-01 | 2.733192-01                | 1.678585-01           | Z-380682-01      |
| 24400000-01   | 3.048127-01                       | 9+635094-02              | 6.145574-01 | 2.709446-01                | 1.541615-01           | 2,304589-01      |
| 2.200000-01   | 3.024535-01                       | 8.791737-02              | 5.940166-01 | 2.688475-01                | 1.406678-01           | 2.227962-01      |
| 2.000000-01   | 3.003876-01                       | 7,959616-02              | 5,730334-01 | 2.670112-01                | 1,273538-01           | 2-148875-01      |
| 1.800000-01   | 2,965976-01                       | 7.137310-02              | 5,519774-01 | 2-654201-01                | 1.141969-01           | 2.067665-01      |
| 1.600000-01   | 2.970672-01                       | 6.323438-02              | 5.287641-01 | 2.640597-01                | 1.011750-01           | 1,982865-01      |
| 1-400000-01   | 2.957807-01                       | 5.516650 <del>-</del> 02 | 5.048267-01 | 2.629161 <u>-01</u>        | 8.826637-02           | 1.893099-01      |
| 1.200000-01   | 2,947231-01                       | 4.715604-02              | 4.790700-01 | 2.619761-01                | 7.544965-02           | 1,794512-01      |
| 1-000000-01   | 2.938797-01                       | 3.918918-02              | 4.507850-01 | 2.612264-01                | 6.270267-02           | 1.690443-01      |
| B . 000000-02 | 2.932353-01                       | 3.125Q37~Q2              | 44188787-01 | 2.606536-01                | 5.000059-02           | 1.570799-01      |
| 6.000000-02   | 2.927742-01                       | 2.331848-02              | 3.814856-01 | 2.602497-01                | 3.730956-02           | 1.430571-01      |
| 4.000000-02   | 2.924785-01                       | 1.535093-02              | 3.348891-01 | 2 <b>.5998</b> 09-01       | 2.456148-02           | 1.255834-01      |
| 2.000000-02   | 2,923268-01                       | 7.172749-03              | 2.693547-01 | 2 <b>.598<u>460-01</u></b> | 1 <u> - 147440-02</u> | 1.010080-01      |

M = 2.4

| ×                          | g                          | f                          | h                          | p/p <sub>R</sub>           | ս/ս <sub>R</sub>                            | p∕ P <sub>R</sub>                  |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|---|------------------------------------|
| 1.008000+00                | 1.137731+00                | 6.886574-01                | 3,211 <del>896</del> +00   | 1.000000+00                | 1.000000+00                                 | 1.000000+00                        |
| 9.800000-01                | 1.056801+00                | 6.675324-01                | 24982048+00                | 9 <u>-288667-01</u>        | 9+699244-01                                 | 9-284369-01                        |
| 9.600000-01                | 9.832384-01                | 6 - 465674-01              | 2.772084+00                | 8.642096-01                | 9.388811-01                                 | 0.630678-01                        |
| 9.400000-01                | 9.163492-01                | 6.257830-01                | 2.580184+00                | 8.054178-01                | 9.087001-01                                 | •033217-01                         |
| 9-200000-01                | 8.555087-01                | 6.052011-01                | 2,404699+00                | 7.519426-01                | 8.788231-01                                 | 7.486832-01                        |
| 9+000000-01                | 8.001551-01                | 5.848444-01                | 2:244108+00<br>2:097076+00 | 7.032900-01                | 8.492531-01                                 | 0.984844-01                        |
| 8.800000-01<br>8.600000-01 | 7.497824-01<br>7.039345-01 | 5•647363-01<br>5•449005-01 | 1.962371+00                | 6.590153~01<br>6.187176-01 | 8:200541~01<br>7:912504-01                  | 6.529092-01<br>6.109697-01         |
| 8.400000-01                | 6.621996-01                | 5.253606-01                | 1.838878+00                | 5.820351-01                | 7.628766-01                                 | 5.725211-01                        |
| 8.200000-01                | 6.242058-01                | 5.061400-01                | 1.725586+00                | 5486407-01                 | 7.349663-01                                 | 5-372485-01                        |
| 8.000000-01                | 5.896163-01                | 4-872611-01                | 1.621575+00                | 5.182386-01                | 7.073522-01                                 | 5.048655-01                        |
| 7.800000-01                | 5.581261-01                | 4.687448-01                | 1.526008+00                | 4.905605-01                | 6.406648-01                                 | 4.751112-01                        |
| 7.600000-01                | 5.294584-01                | 4.506106-01                | 1.438119+00                | 4.653633-01                | 6.543920-01                                 | 4.477478-01                        |
| 7.400000-01                | 5.033619-01                | 4.328752-01                | 1.357213+00                | 4.424259-01                | 6.285784-D1                                 | 4-225582-01                        |
| 7.200000-01                | 4.796078-01                | 4-155529-01                | 1.282651+00                | 4.215475-01                | 6.034248-01                                 | 3.999489-01                        |
| 7+000000-01                | 4.579883-01                | 3.986552-01                | 1.213850+00                | 4.025451-01                | 5.788875-01                                 | 3.779233-01                        |
| 6.800000-01                | 4.383137-01                | 3.821898-01                | 1.150278+00                | 3-832524-01                | 9.549782-01                                 | 3.581304-01                        |
| 6.600000-01                | 4,204116-01                | 3,661616-01                | 1.091444+00                | 3,695175-01                | 54317035-01                                 | 3,398191-01                        |
| 6.40D000-01                | 4:041246-01                | 3.505715-01                | 1.036903+00                | 3.552023-01                | 9.090452-01                                 | 3.228320-01                        |
| 6.200000-01                | 3.693101-01                | 3 - 354 176-01             | 9.862434-01                | 9a421810 <u>-01</u>        | 4.670602-01                                 | 3.070596-01                        |
| 6.000000-01                | 3.758371-01                | 3.206943-01                | 9.390906~01                | 3.303390-01                | 4.456805-01                                 | 2,923789-01                        |
| 5.800000-01                | 3.635874-01                | 3:063933-01                | 8.951006-01                | 3.195722 <del>-</del> 01   | 4.449140-01                                 | 2 <b>.786830-</b> 01               |
| 5.600000-01                | 3.524591-01                | 2,925037-01                | 8.539586-01                | 34097859~01                | 4+247448-01                                 | 2,458737-01                        |
| 5.400000-01                | 3.423366-01                | 2.790119-01                | 8,153760-01                | 3,008941-01                | 4:051534-01                                 | 2,538619-01                        |
| 5 • 200000-01              | 3.331491-01                | 2.659027-01                | 7.790885-01                | 2.928187-01                | 3.861176-01                                 | 2,425634-01                        |
| 5.000000-01                | 3.248101-01                | 2.531593-01                | 7.448537-01                | 2.854893-01                | 3 <b>6 7 6 1 2 8 - 0 1</b>                  | 2-319047-01                        |
| 4.800000-01                | 3.172470-01                | 2.407634-01                | 7.124489-D1                | 2.788417-01                | 3.496128-01                                 | 2.218157-01                        |
| 4-600000-01                | 3.103938-01                | 2 • 286961-01              | 6.816693-D1                | 2.728181-01                | 3.320898-01                                 | 2+122327-01                        |
| 4.400000-01<br>4.208600-01 | 3.041909-01                | 2.169376-01                | 6.523259-01                | 2.673662-01                | 3-190153-01                                 | 2.030968-01                        |
| 4.000000-01                | 2.985645-01<br>2.935259-01 | 2:054681-01<br>1:942676-01 | 6.242436-01<br>5.972598-01 | 2.624385-01                | 2.983604-01                                 | 1.943536-01                        |
| 3.800000-01                | 2.889710-01                | 1.833160-01                | 5.712222-01                | 2.579923-01                | 2.820961-01                                 | 1.859524-01                        |
| 3.600000-01                | 2.848799-01                | 1.725939-01                | 5.459873-01                | 2.539888-01<br>2.503929-01 | 2 <u>4661933-</u> 01<br>2 <u>4506237-01</u> | 1 <u>*778458~01</u><br>1*699891-01 |
| 3.400000-01                | 2.812163-01                | 1.620820-01                | 5-214188-01                | 2.471728-01                | 2.353594-01                                 | 1.623399-01                        |
| 3.200000-01                | 2.779473-01                | 1.517618-01                | 4.973859-01                | 2.442996-01                | 2.203734-01                                 | 1.548574-01                        |
| 3.000000-01                | 2.750430-01                | 1.416151-01                | 4.737609-01                | 2.417468-01                | 2.056395-01                                 | 1.475020-01                        |
| 2.800000-01                | 2.724758-01                | 1.316249-01                | 4.504184-01                | 2+394904-01                | 1.911326-C1                                 | 1.402344-01                        |
| 2.600000-01                | 2.702206-01                | 1.217744-01                | 4.272317-01                | 2.375082-01                | 1.768288-01                                 | 1.330154-01                        |
| 2.400000-01                | 2.682541-01                | 1.120482-01                | 4.040715-01                | 2.357798-01                | 1.627053-01                                 | 1.258047-01                        |
| 2.200000-01                | 2.665546-01                | 1.024314-01                | 3.808016-01                | 2.342860-01                | 1.487407-01                                 | 1.185598-01                        |
| 2.000000-01                | 2.651018-01                | 9.291029-02                | 3.572755-01                | 2.330091-01                | 1.349151-01                                 | 1.112351-01                        |
| 1.800000-01                | 2.638766-01                | 8.347220-02                | 3.333298-01                | 2.319322-01                | 1.212101-01                                 | 1.037798-01                        |
| 1:600000-01                | 2+628604-01                | 7:410572-02                | 3.087763-01                | 2.310391-01                | 1:076090-01                                 | 9+613521-02                        |
| 1.400000-01                | 2.620357-01                | 6.480105-02                | 2.833884-01                | 2.303142-01                | 9+409766-02                                 | 8 823088-02                        |
| 1.200000-01                | 2.613847-01                | 5.555061-02                | 2.568798-01                | 2:297420-01                | 8.066508-02                                 | 7.997762-02                        |
| 1.000000-01                | 2.608901-01                | 4.635033-02                | 2,288651-01                | 2.293073-01                | 6.730535-02                                 | 7.125546 <b>~</b> 02               |
| 8.000000-02                | 2.605339-01                | 3.720297-02                | 1.987831-01                | 2.289942-01                | 5 • 402246-02                               | 6.18 <b>8966-</b> 02               |
| 6.000000-02                | 2.602975-01                | 2.612786-02                | 1.657177-01                | 2.287664-01                | 4.084449-02                                 | 5.159498-02                        |
| 4.000000-02                | 2.601608-01                | 1.919976-02                | 1.278675-01                | 2.296663-C1                | 2.787999-02                                 | 3.981061-02                        |
| 2.000000-02                | 2.601014-01                | 1:082044-02                | 7.978550-02                | 2.286140-01                | 1.571238-02                                 | 2.484062-02                        |
|                            |                            |                            |                            |                            |   |                                    |

M = 3.0

|                            |                            |                            | m - 3.0                    |                              |                               |                            |
|----------------------------|----------------------------|----------------------------|----------------------------|------------------------------|-------------------------------|----------------------------|
| ×                          | g                          | f                          | h                          | p/p <sub>R</sub>             | u/u <sub>R</sub>              | $\rho/\rho_{ m R}$         |
|                            | 1.148148+00                | 7-407407-01                | 3.857142+00                | 1.000000+00                  | 1.0000000+00                  | 1.000000+00                |
| 1.000000+00<br>9.800000-01 | 1.048907+00                | 7.174505-01                | 3.469950+00                | 9.135639-01                  | 9.685582-01                   | 8 <u>-996169-01</u>        |
| 9.600000-01                | 9-614068-01                | 6-944030-01                | 3,130533+00                | 8.373543-01                  | 9.374441-01                   | 8.116196-01                |
| 9.400000-01                | B.841219-01                | 6.716283-01                | 2.832246+00                | 7.700417-01                  | 9.066982-01                   | 7.342860-01                |
| 9.200000-01                | 8-157469-01                | 6-491568-01                | 2,569457+00                | 7.104892-01                  | 8.763618-01                   | 6.661556-01                |
| 9.000000-01                | 7.551622-01                | 6.270192-01                | 2.337375+00                | 6.577219-01                  | 8.464760-01                   | 6.059862-01                |
| 8.800000-01                | 7.014046-01                | 6.052456-01                | 2,131913+00                | 6.109008-01                  | 8.170816-01                   | 3.527182-01                |
| 8.600000-01                | 6.536433-01                | 5.838650-01                | 1.949573+00                | 5.693023-01                  | 7.88 <u>21</u> 78- <u>0</u> 1 | <u> </u>                   |
| 8.408000-01                | 6.111592-01                | 5.629044-01                | 1,787356+00                | 5.323000-01                  | 7.599210-01                   | 4.633886-01                |
| 8.200000-01                | 5.733283-01                | 5.423884-01                | 1.642680+00                | 4,993505-01                  | 7.322244-01                   | 4.258799-01<br>3.923419-01 |
| 8.000000-01                | 5,396076-01                | 5.223383-Q1                | 1.513318+00                | 44699808-01                  | 7,051568-01                   | 3.622752-01                |
| 7.800000-01                | 5.095232-01                | 5.027717-01                | 1.397347+00                | 4.437783-01                  | 6.787419-01                   | 3.352475-01                |
| 7-600000-01                | 4,826608-01                | 4.837019-01                | 1,293097+00                | 4.203820-01                  | 6.529976-01                   | 3-108832-01                |
| 7-400000-01                | 4,586572-01                | 4.651378-01                | 1.199121+00                | 3.994756-01                  | 6.279360 <u>-0</u> 1          | 2.886556-01                |
| 7.200000-01                | 4.371932-01                | 4.470834-01                | 1.114157+00                | 3.807812-01                  | 6.035627-01                   | 2.688802-01                |
| 7.000000-01                | 4.179885-01                | 4.295384-01                | 1.037109+00                | 3.640545-01                  | 5.798769-01                   | 2.507088-01                |
| 6.800000-01                | 4.007956-01                | 4.124978-01                | 9.670195-01                | 3.490801-01                  | 5.568720-01<br>5.345359-01    | 2.341244-01                |
| 6.600000-01                | 3,853968-01                | 3.959525-01                | 9.030511-01                | 3.356682-01                  | 5.128513-01                   | 2.189375-01                |
| 6.400000-01                | 3.715996-01                | 3.798898-01                | 8.444730-01                | 3.236513-01                  | 4.917966-D1                   | 2.049822-01                |
| 6.200000-01                | 3.592341-01                | 3.642938-01                | 7.906455-01                | 3.128813-01                  | 4.713466-01                   | 1.921133-01                |
| 6.000000-01                | 3,481501-01                | 3.491456-01                | 7.410083-01                | 3.032275-01                  | 4.514732-01                   | 1.802034-01                |
| 5.800000-01                | 3.382148-01                | 3+344246-01                | 6.950701-01                | 2.945742-01                  | 4.321461-01                   | 1.691408-01                |
| 5.600000-01                | 3,293107-01                | 3.201082-01                | 6.524003-01                | 2.868190-01<br>2.798711-01   | 4.133333-01                   | 1.588276-01                |
| 5.400000-01                | 3.213335-01                | 3.061728-01                | 6.126206-01                | 2.736502-01                  | 3.950020-01                   | 14491775-01                |
| 5,200000-01                | 3.141910-01                | 2 925941-01                | 5.753989-01                |                              | 3.771190-01                   | 1.401149-01                |
| 5 <b>.000000-</b> 01       | 3.078013-01                | 2.793474-01                | 5-404430-01                | 2.680850-01<br>2.631118-01   | 3.596509-01                   | 1.315730-01                |
| 4.800000-01                | 3.020913-01                | 2.664081-01                | 5.074958-01                | 2.586743-01                  | 3.425649-01                   | 1,234932-01                |
| 4.600000-01                | 2.969964-01                | 2.537518-01                | 4.763309-01                | 2.547219-01                  | 3-258289-01                   | 1.158238-01                |
| 4.400000-01                | 2.924585-01                | 2.413547-01                | 4.467488-01                | 2.512096-01                  | 3.094114-01                   | 1.085191-01                |
| 4.200000-01                | 2.884259-01                | 2.291936-01                | 4.185738-01<br>9.916508-01 | 2.480969~01                  | 2.932824-01                   | 1.015391-01                |
| 4.000000-01                | 2.848520-01                | 2.172463-01                | 3.658434-01                | 2.453473-01                  | 2.774130-01                   | 9-484831-02                |
| 3.800000-01                | 2.816950-01                | 2.054911-01<br>1.939076-01 | 3.410315-01                | 2.429278-01                  | 2.617753-01                   | 8.841559-02                |
| 3.600000-01                | 2.789171-01                | 1.824764-01                | 3-171097-01                | 2.408086-01                  | 2.463432-01                   | 8.221364-02                |
| 3.400000-01                | 2.764840-01                | 1.711790-01                | 2.939858-01                | 2.389625-01                  | 2.310916-01                   | 7.621856-02                |
| 3.200000-01                | 2.743643-01<br>2.725295-01 | 1.599978-01                | 2.715799-01                | 2.373644-01                  | 2.159970-01                   | 7.040961-02                |
| 3.000000-01                | 2.709531-01                | 1.489163-01                | 2.498229-01                | 2.359914-01                  | 2.010370-01                   | 6,476891-02                |
| 2.800000-01                | 2.696106-01                | 1.379188-01                | 2.286565-01                | 2.348221-01                  | 1.861 <u>903-01</u>           | <u> 5.928132-02</u>        |
| 2.600000-01<br>2.400000-01 | 2.684793-01                | 1.269902-01                | 2,080321-01                | 2,338368-01                  | 1.714368-01                   | 5.393426-02                |
| 2.200000-01                | 2.675377-01                | 1.161161-01                | 1.879112-01                | 2,330167-01                  | 1.567568-01                   | 4.871773-02                |
| 24000000-01                | 2.667658-01                | 1.052823-01                | 1.682650-01                | 2.323444-01                  | 1.421311-01                   | 4.362426-02                |
| 1.800000-01                | 2.661444-01                | 9.447407-02                | 1.490753-01                | 2.318032-01                  | 1.275400-01                   | 3.864916-02                |
| 1.600000-01                | 2-636554-01                | 8-367566-02                | 1.303357-01                | 2.319773-01                  | 1.129621-01                   | 3.379074-02                |
| 1.400000-01                | 2.652812-01                | 7.286830-02                | 1,120537-01                | 2 <u>+31</u> 0514- <u>01</u> | 9-837221-02                   | 2.905095-02                |
| 1.200000-01                | 2.650052-01                | 6.202703-02                | 9 425563-02                | 2.308110-01                  | 8.373649-02                   | 2.443649-02                |
| 1.000000-01                | 2-648112-01                | 5.111332-02                | 7,699195-02                | 2-906420-01                  | 6.900299-02                   | 1-996088-02                |
| 8.000000-02                | 2.646836-01                | 4.005690-02                | 6.036038-02                | 2.305309-01                  | 5.407681-02                   | 1.564899-02                |
| 6.000000-02                | 2.646075-01                | 2.870105-02                | 4.454252-02                | 2.304646-01                  | 3.874642-02                   | 1.154806-02                |
| 4.000000-02                | 2.645683-01                | 1.658421-02                | 2.993421-02                | 2.304305-01                  | 2.238868-02                   | 7.760721-03                |
| 2.000000-02                | 2.645522-01                | 1,410658-03                | 1.764272-02                | 2.304164-01                  | <u>1.904388-03</u>            | <u> </u>                   |
|                            |                            |                            |                            |                              |                               |                            |

M = 3.5

| x                          | g                          | f                          | h  | p/p <sub>R</sub>                                      | u/u <sub>R</sub>                | p∕ p <sub>R</sub>                   |
|----------------------------|----------------------------|----------------------------|--|---|---------------------------------|-------------------------------------|
| 1:000000+60                | 1.153061+00                | 7-653062-01                | 4-260870+00  | 1+000000+00   | 1.000000+00                     | 1.000000+00                         |
| 9-800000-01                | 1.042181+00                | 7-496243-01                | 3.742360+00  | 9+038348-01   | 9.677491-01                     | 8.783089-01                         |
| 9.600000-01                | 9,465696-01                | 7.162844-01                | 3,302218+00  | 8.210055-01   | 9.359449-01                     | 7.750103-01                         |
| 9-400000-01                | 8.641240-01                | 6•923248-01                | 24926824+00  | 7:494173-01   | 9.046277-01                     | 64869075-01                         |
| 9.200000-01                | 7.925678-01                | 6.687829-01                | 2+605181+00  | 6 <b>+87359</b> 7-01                                  | 8.7 <b>38763-01</b>             | 6+1341 <del>99</del> -01            |
| 9.000000-01                | 7.303652-01                | 6.456949-01                | 24328362+00  | 6.334141-01   | 8.437079-01                     | 5+464521-01                         |
| 8.800000-01                | 6.761598-01                | 6+230938-01                | 2.089078+00  | 5 <b>:864006-</b> 01                                  | 8.141756-01                     | 4.902938-01                         |
| 8.600000-01                | 6.283018-01                | 6+010091-01                | 1.681352+00  | 5 - 453525-01   | 7 <b>.6531<del>8</del>6-</b> 01 | 4-425417-01                         |
| 84400000-01                | 5.879477-01                | 5.794660-01                | 1.700252+00  | 5:093812-01   | 7,57 <b>1689-</b> 01            | 3.990387-01                         |
| 8.200000-01                | 5.509872-01                | 5.584841-01                | 1=541697+00  | 4:778473-01   | 7.297525-01                     | <b>3:618267-01</b>                  |
| 8.000000-01                | 5.190370-01                | 5.380773-01                | 1.402291+00  | 44501269-01   | 7.030677-01                     | 3.291090-01                         |
| 7-800000-01                | 4.909158-01                | 5.182534-01                | 1.279200+00  | 44257500-01   | 6.772845-01                     | 3.00 <u>22</u> 05-01                |
| 7-600000-01                | 4.661272-01                | 4-990142-01                | 1.170051+00  | 4.042519-01   | 6.520451-01                     | 2.746038-01                         |
| 7.400000-01                | 4.442464-01                | 4.803552-01                | 1.072848+00  | 3-852757-01   | 6 - 276641-01                   | 2+517908-01                         |
| 7.200000-01                | 4.249084-01                | 4-622669-01                | 9.859089-01  | 3+665047-01   | 6.040287-01                     | 2-313868-01                         |
| 7.000000-01                | 4.077991-01                | 4+447343-01                | 9.078134-01  | 3.536664-01   | 5.8111 <del>9</del> 5-01        | 2.130582-01                         |
| 6.800000-01                | 3.926473-01                | 4.277387-01                | 8.379580-01  | 3+405260-01   | 5 - 589119-01                   | 1-965228-01                         |
| 6.600000-01                | 3.792187-01                | 4.112575-01                | 7.735211-01  | 3.286800-01   | 5-371765-01                     | 1.815406-01                         |
| 6.400000-01                | 3,673104-01                | 3.952655-01                | 7-154340-01  | 3.185524-01   | 5 • 164803-01                   | 1-679080-01                         |
| 6+200000-01<br>6+000000-01 | 3.567461-01<br>3.473727-01 | 3.797355-01                | 6.623564-01  | 3.093905-01   | 4-961677-01                     | 14554510-01                         |
|                            |                            | 3.646389-01                | 6.136565-01  | 3.012613-01   | 4.764624-01                     | 1+440214-01                         |
| 5.800000-01<br>5.600000-01 | 3+390566-01<br>3+316814-01 | 3-499463-01                | 5.687941-01  | 2.940491-01   | 4+572632-01                     | 1+384925-01                         |
| 5.400000-01                | 3.251448-D1                | 3.356284-01                | 5 <sub>0</sub> 273067-01<br>4 <sub>4</sub> 887980-01 | 2 876529-01   | 4 = 385544-01                   | 1+237554-01                         |
| 5.200000-01                | 3.193574-01                | 3.216558-01                |  | 2.879840-01   | 4.202968-01                     | 1-147179-01                         |
| 5.000000-01                | 34142403-01                | 3.079997-01<br>2.946324-01 | 4.529277-01  | 2.749648-01   | 4.024529-01                     | 1.062993-01                         |
| 44800000-01                | 3.097238~01                | 2.815271-01                | 4.194038-C1<br>3.879756-01                           | 2 <b>.725270-</b> 01<br>2 <b>.686</b> 101 <b>-</b> 01 | 3.849863-01                     | 9+843149-02                         |
| 4.600000-01                | 3.057454-01                | 24686581-01                | 3a584277-01  | 2.651606-01   | 3-678620-01                     | 9-105548-02                         |
| 4=400000-01                | 3.022531-01                | 2#560014-01                | 34305756-01  |   | 3:510466+01 .<br>3:345084+01    | 8:412078-02<br>7: <b>758</b> 405-02 |
| 4.200000-01                | 2.991950-01                | 2.435339-01                | 3.042621-01  | 2:621310-01<br>2:5 <del>94788</del> -01               | 3.182176-01                     | 7.140822-02                         |
| 4.000000-01                | 2.965280-01                | 2.312345-01                | 2.793496~01  | 2.572659-01   | 3.021463-01                     | 6.556164-02                         |
| 34800000-01                | 2.942127-01                | 24190830-01                | 2.557266-01  | 2.551579-01   | 2.862684-01                     | 6 a 001 T46 - 02                    |
| 3.600000-01                | 2.922133-01                | 2.070611-01                | 2.332955-01  | 2.534239-01   | 2.705598-01                     | 5.475302-02                         |
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| 3-200000-01                | 2.890349-01                | 1.833388-01                | 1.917015-01  | 2.506674-01   | 2.395627-01                     | 4-499115-02                         |
| 3.000000-01                | 2.877991-01                | 1.716084-01                | 14724189-01  | 2 495957-01   | 2 • 242349-01                   | 4.046566-02                         |
| 2.800000-01                | 2.867647-01                | 1.599472-01                | 1-540867-01  | 2-486986-01   | 2.089977-01                     | 3.414319-02                         |
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| 2-400000-01                | 2-852096-01                | 14367864-01                | 1-201605-01  | 2+473499-01   | 1+787342-01                     | 2 820093-02                         |
| 2 • 200000-01              | 2.846476-01                | 1:252562-01                | 1.045353-01  | 2 468625-01   | 1+636811-01                     | 2.493378-02                         |
| 2.000000-01                | 2-842043-01                | 1+137740-01                | 8-979701-02  | 2-464780-01   | 1 486647-01                     | 2.107461-02                         |
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| 1.000000-01                | 2.832082-01                | 5.644733-02                | 3,006694-02  | 2+456142-01   | 7-375794-02                     | 7+856525-03                         |
| 8.000000-02                | 2.831580-01                | 4+493288-02                | 2.122039-02  | 24455707-01   | 54871230-02                     | 4+980295-03                         |
| 6.000000-02                | 2.831315-01                | 3.333855-02                | 1.360205-02  | 2.455477-01   | 4.356237-02                     | 3-192317-03                         |
| 4.000000-02                | 2.831200-01                | 2:153968-02                | 7.381232-03  | 2.455377-C1   | 2.814518-02                     | 1-732330-03                         |
| 24000000-02                | 2.831166-01                | 8.918408-03                | 2-873290-03  | 2.455347-Cl   | 1.165339-02                     | 44743494-04                         |
|                            |                            |                            |  | _   | _                               |                                     |

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| x                     | g           | f           | h                        | p/p <sub>R</sub>                        | u/u <sub>R</sub>     | ₽/P <sub>R</sub> |
|-----------------------|-------------|-------------|--------------------------|---|----------------------|------------------|
|                       |             | - 010540-01 | 44571429+00              | 1.000000+00                             | 1.000000+00          | 1.000000+00      |
| 1.000000+00           | 1.156250+00 | 7.812500-01 | 3.932672+00              | 8.963589-01                             | 9.670424-01          | 8-602719-01      |
| 9.800000-01           | 1.036415+00 | 7.555019-01 |                          | 8.088632-01                             | 9.346599-01          | 7.449303-01      |
| 9.600000-01           | 9.352481-01 | 7.302031-01 | 3.405396+00              | 7.346343-01                             | 9.029103-01          | 6.490308-01      |
| 9.400000-01           | 8,494209-01 | 7.053987-01 | 2,966998+00              | 6.713799-01                             | 8.718476-01          | 5.687475-01      |
| 9-200000-01           | 7.742630-01 | 6.B11310-01 | 2.599989+00              | • | 8.415205-01          | 5.010941-01      |
| 9-000000-01           | 7.137063-01 | 6+574379-01 | 2.290716+00              | 6.172595-01                             | 8.119701-01          | 44437213-01      |
| B.800000-01           | 6.599695-01 | 6.349516-01 | 2.028441+00              | 5.707844-01                             | 7.832291-01          | 3.947670-01      |
| 8.600000-01           | 6.136700-01 | 6.110977-01 | 1.804649+00              | 5,307417-01                             | 7.553206-01          | 3.527446-01      |
| 8.400000-01           | 5.736577-01 | 5.900942-01 | 1.612547+00              | 4.961364-01                             | 7.282576-01          | 3-164603-01      |
| 8-200000-01           | 5.389834~01 | 5.689512-01 | 1,446676+00              | 4.661478-01                             | 7.020428-01          | 2.849495-01      |
| 8.000000-01           | 5.088596-01 | 5.484709-01 | 1.302626+00              | 4.400948-01                             | 6.766691-01          | 2.574287-01      |
| 7_800000-01           | 4.826295-01 | 5.286478-01 | 1.176817+00              | 4.174093-01                             |                      | 2.332585-01      |
| 7.600000-01           | 4.597428-01 | 5.094693-01 | 1.066325+00              | 3.976154-01                             | 6-521207-01          | 2.119145-01      |
| 7-400000-01           | 4.397368-01 | 4.909167-01 | 9,687523-01              | 3.803129-01                             | 6.283734-01          | 1.929654~01      |
| 7-200000-01           | 4.222208-01 | 4.729661-01 | 8.921275-01              | 3.651640-01                             | 6.053966-01          |                  |
| 7.000000-01           | 4.068637-01 | 4.555893-01 | 8 <sub>4</sub> 04B201-01 | 3.518821-01                             | 5.831543-01          | 1.760544-01      |
| 6.809000-01           | 3.933842-01 | 4.387551-01 | 7.354785-01              | 3.402242-01                             | 5.616066-01          | 1.608859-01      |
|                       | 3.815425-01 | 4.224301-01 | 6.729782-01              | 3.299827-01                             | 5.407105-01          | 1.472140-01      |
| 6+600000-01           | 3.711333-01 | 4.065796-01 | 6.163808-01              | 3.209802-01                             | 5.204219-01          | 1.348333-01      |
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| 6.200000-01           | 3.539335-01 | 3.761618-01 | 5.178799-01              | 3.061046-01                             | 4.814871-01          | 1.132862-01      |
| 6.000000-01           | 3.468605-01 | 3.615251-01 | 4.747631-01              | 2.999874-01                             | 4.627521-01          | 1.03B544-C1      |
| 5.800000-01           | 3.406485-01 | 3-472250-01 | 4.350B34-01              | 2.946149-01                             | 4 <u>4444</u> 481-01 | 9.517448-02      |
| 5.600000-01           |             | 3.332298-01 | 3.984461-01              | 2.899018-01                             | 4+265341-01          | 8.716007-02      |
| 5.400000-01           | 3.351990-01 | 3.195089-01 | 3.645172-01              | 2.857736-01                             | 4.089714-01          | 7.973814-02      |
| 5.200000-01           | 3.304257-01 | 3.060337-01 | 3.330142-01              | 2.821650-01                             | 3,917231-01          | 7.284685-02      |
| 5.000000-01           | 3.262533-01 | 2-927774-01 | 3.036973-01              | 2.790185-01                             | 3.747550-01          | 6.643378-02      |
| 4.800000-01           | 3.226152-01 | 2.797148-01 | 2.763634-01              | 2.762839-01                             | 3.580350-01          | 6.045449-02      |
| 4.600000-01           | 3,194525-01 | 2.668229-01 | 2.508404-01              | 2.739141-01                             | 3.415333-01          | 5.467133-02      |
| 4.400000-01           | 3.167132-01 | 2.540801-01 | 2.269826-01              | 2.718707-01                             | 3.252226-01          | 4.965243-02      |
| 4.200000-01           | 3.143505-01 |             | 2.046669-01              | 2.701170-01                             | 3.090777-01          | 4.477087-02      |
| 4.000000-01           | 3.123228-01 | 2.414669-01 | 1.837895-01              | 2.686205-01                             | 2 <b>4930756-01</b>  | 4.020396-02      |
| 3.800000-01           | 3.105924-01 | 2.289653-01 | 1.642634-01              | 2.673519-01                             | 2.771956-01          | 3.593262-02      |
| 34600000-01           | 3.091256-01 | 2-165591-01 | 1.460158-01              | 2.662845-01                             | 2.614186-01          | 3,194094-02      |
| 3,40 <b>00</b> 000-01 | 3.078915-01 | 2.042333-01 | 1.289860-01              | 2.653944-01                             | 2.457276-01          | 2.821568-02      |
| 3 <b>.200900-</b> 01  | 3.068623-01 | 1.919747-01 | 1,131241-01              | 2.646594-01                             | 2.301072-01          | 2.474590-02      |
| 3.000000-01           | 3.060124-01 | 1.797712-01 | 9.838935-02              | 2.640595-01                             | 2.145436-01          | 2:152267-02      |
| 2.80 <b>0000-</b> 01  | 3.053188-01 | 1.676122-01 | 8.474851-02              | 2.635765-01                             | 1.990244-01          | 1.853874-02      |
| 2 <b>#600000-</b> 01  | 3.047603-01 | 1.554878~01 | 7.217515-02              | 2.631936-01                             | 1.835383-01          | 578831-02        |
| 2_400000-01           | 3.043176-01 | 1.433893-01 | 6.064840-02              | 2,628956-01                             | 1.680750-01          | 1.326684-02      |
| 2:20 <b>0000-</b> 01  | 3.039731-01 | 1.313086-01 | 5.015214-02              | 2,626688-01                             | 1-524248-01          | 1.097078-02      |
| 2.0000000-01          | 3.037108-01 | 1.192381-01 | 4.067417-02              | 2.625006-01                             | 1.371779-01          | 8.897473-03      |
| 1.800000-01           | 3.035164-01 | 1.071703-01 | 3.220553-02              | 2.623799-01                             | 1.217238-01          | 7.044959-03      |
| 1,600000-01           | 3,033768-01 | 9.509674-02 | 2.473989-02              | 2.622967-01                             | 1.062498-01          | 5.411850-03      |
| 1.400000-01           | 3.032806-01 | 8.300766-02 |                          | 2.622422-01                             | 9.073810-02          | 3.997218-03      |
| 1,200000-01           | 3.032176-01 | 7.088914-02 | 1.827300-02              | 2.622089-01                             | 7-515999-02          | 2.800492-03      |
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| 8.000000-02           | 3.031577-01 | 4.645389-02 | 8,326345-03              | 2.621814-01                             | 4.351669-02          | 1.059878-03      |
| 6.000000-02           | 3.031473-01 | 3.399741-02 | 4.845158-03              | 2.621779-01                             | 2.695664-02          | 5.162658-04      |
| 4.000000-02           | 3.031432-01 | 2.105988-02 | 2.360072-03              | 2.621769-01                             | 7.931569-03          | 1.908831-04      |
| 2.000000-02           | 3.031421-01 | 6.196538-03 | 8.726086-04              | 78021107-01                             |                      |                  |
|                       |             |             |                          |   |                      |                  |

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| 3.400000-01 3.396509-01 2.165787-01 7.6770705-02 2.926025-01 2.707234-01 1.954141-02 3.200000-01 3.390900-01 2.036921-01 6.592149-02 2.9923190-01 2.546151-01 1.918430-02 3.000000-01 3.38455-01 1.900325-01 5.536212-02 2.919385-01 2.385406-01 1.107242-02 2.800000-01 3.382983-01 1.779927-01 4.595963-02 2.918365-01 2.224909-01 9.191927-03 2.600000-01 3.380318-01 1.6551664-01 3.764831-02 2.912337-01 1.004580-01 7.52963-03 2.400000-01 3.378311-01 1.523478-01 3.036494-02 2.912337-01 1.004348-01 6.07299-03 2.200000-01 3.376834-01 1.395316-01 2.404786-02 2.911064-01 1.744145-01 4.809573-03 2.200000-01 3.37577-01 1.267123-01 1.863614-02 2.910159-01 1.0583904-01 3.0727228-03 1.800000-01 3.375577-01 1.267123-01 1.8063814-02 2.909521-01 1.2622999-01 2.8013769-03 1.600000-01 3.37555-01 1.010399-01 1.028441-02 2.909521-01 1.222999-01 2.8013769-03 1.600000-01 3.374247-01 8.817001-02 7.220019-03 2.908834-01 1.102125-01 1.404004-03 1.200000-01 3.374063-01 7.525932-02 4.810982-03 2.908875-01 9.407416-02 9.622984-04 1.000000-01 3.374063-01 7.525932-02 4.810982-03 2.908875-01 9.407416-02 9.622984-04 1.000000-01 3.373962-01 6.228191-02 2.990078-03 2.908888-01 7.0785239-02 5.980156-04   | x                    | g                               | f                                       | h                        | p/p <sub>R</sub>      | u/u <sub>R</sub>         | $\rho/\rho_{R}$      |
|--|----------------------|---------------------------------|---|--------------------------|-----------------------|--------------------------|----------------------|
| 94.00000-01  | 1.000000+00          | 1.260000+00                     | 8.000000-01                             | 4.999999+00              | 1.000000+00           | 1+600000+00              | 1.000000+00          |
| 9.400000-01  |                      |                                 |   |                          |                       | 9+440520-01              | <b>0 0332817-</b> 01 |
| 9-200000-01 7-5-64-852-01 6-75-6754-01 2-55-75-00 8-97-05-0-1 8-97-05-0-1 8-75-00000-01 8-97-05-0-1 8-75-00000-01 8-75-000000-01 8-75-0000000-01 8-75-0000000-01 8-75-000000-01 8-75-000 | 9 <b>+600000</b> ~01 | 9 <b>.1<del>99</del>9</b> 27-01 | 7•4 <del>63344-</del> 01                | 3.507025+00              | 7.930972-01           | 9 • 329 161-01           | 7.014051-01          |
| 9.00000-01 6.99938-01 6.712002-01 2.202386+00 5.8991083-01 8.990002-01 3.828083-01 8.800000-01 5.990296-01 6.477266-01 1.877302+00 5.864049-01 7.873295-01 3.828083-01 8.600000-01 5.617639-01 6.032081-01 1.877302+00 5.864049-01 7.873295-01 3.828083-01 8.200000-01 5.617639-01 6.032081-01 1.877302+00 5.864049-01 7.873295-01 3.828083-01 8.200000-01 5.6028957-01 5.618535-01 1.829983-400 4.3891849-01 7.8273170-01 2.900009-01 7.800000-01 3.979537-01 5.618535-01 1.825029+00 4.3891849-01 7.0233170-01 2.900009-01 7.800000-01 4.9796378-01 5.422997-01 1.026893-00 4.3891849-01 6.5433043-01 1.835329-01 7.400000-01 4.9796378-01 5.0324939-01 9.170661-01 3.952846-01 6.5543043-01 1.835132-01 7.200000-01 4.275425-01 4.876584-01 7.370627-01 3.8589711-01 6.999750-01 1.6478728-01 7.200000-01 4.275425-01 4.767658-01 7.370627-01 3.957846-01 5.802954-01 1.8323139-01 6.800000-01 4.035321-01 6.390990-01 5.962817-01 3.9578498-01 5.862954-01 1.9223439-01 6.400000-01 3.835383-01 4.8224928-01 4.838046-01 3.922779-01 5.92280-01 3.92280-01 1.92284-01 6.400000-01 3.835383-01 4.922793-01 4.938034-01 3.223779-01 5.922810-01 4.976638-00 6.200000-01 3.720605-01 3.9723910-01 3.9733910-01 3.9723910-01 3.9723910-01 3.9733910-01 3.97339 |                      |                                 |   |                          |                       | 9+ <del>00664</del> 0-01 | 5 <b>.958399-</b> 01 |
| 8 & 600000 - 0.1   |                      |                                 |   |                          |                       |                          |                      |
| 8 & 600000-01  |                      |                                 |   |                          |                       |                          |                      |
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| \$\begin{array}{cccccccccccccccccccccccccccccccccccc   |                      |                                 | 'FTE'LE' EF                             |                          |                       |                          |                      |
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|  |                      |                                 |   |                          |                       |                          |                      |
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N = 7.0

| x                          | g                                   | f           | 'n          | p/p <sub>R</sub>     | u/u <sub>R</sub>              | $\rho/\rho_{ m R}$       |
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| 9+600000-01                | 9.054319-01                         | 74337090-01 | 2.944483+00 | 7.001883-01          | 8.987936-01                   | 5.408234-01              |
| 9.400000-01                | 8-145048-01                         | 7.081554-01 | 2.460267+00 | 64370757-01          | 8 • 674903-01                 | 4.518858-01              |
| 9.200000-01                | 7.410880-01                         | 6.836294-01 | 2.076362+00 | 54856625-01          | 8.374460-01                   | 3.813725-01              |
| 9.000000-01                | 64812809-01<br>64321 <b>622-</b> 01 | 6.601222-01 | 1.767663+00 | 5-494548-01          | 8.086497-01                   | 3.246728-01              |
| 8.800000-01                | 5.916014-01                         | 6.376074-01 | 1.516190+00 | 5.085697-01          | 7-810691-01                   | 2.784839-01              |
| 8.600000-01                | 5.578627-01                         | 6.160439-01 | 1-308859+00 | 4.795662-01          | 7.546538-01                   | 2.404027-01              |
| Ba400000-01                | 54296685-01                         | 5.953793-01 | 1.136020+00 | 4.553290-01          | 7.293397-01                   | 2.086566-01              |
| 8-200000-01                | 5.060038-01                         | 5.755535-01 | 9-904585-01 | 44349857-01          | 7.050530-01                   | 1.819210-01              |
| 8.000000-01                | 4.860669-01                         | 5.565014-01 | 8.667244-01 | 4.178470-01          | 6.817143-01                   | 1.591943-01              |
| 7.800000-01                | 44692190-01                         | 5.381564-01 | 7.606507-01 | 4.033637-01          | 6+592416-01                   | 1.397114-01              |
| 7.600000-01                | 44549469-01                         | 5-204515-01 | 6.690213-01 | 3.910947-01          | 6.375531-01                   | 1.228835-01              |
| 74400000-01                | 4.428350-01                         | 5.033219-01 | 54893295-01 | 3.806827-01          | 6.165693-01                   | 1.082442-01              |
| 7.200000-01                | 4.325440-01                         | 4.867055-01 | 5-196037-01 | 3.718360-01          | 5.962142-01                   | 9,543741-02              |
| 7.000000-01                | 4.237950-01                         | 4.705440-01 | 4.582797-01 | 3.643150~01          | 5.764164-01                   | 8 -417381-02             |
| 6.800000-01                | 4.163571-01                         | 4.547834-01 | 44041056-01 | 3.579210-01          | 5. <b>571097-</b> 01          | 7+422348-02              |
| 6+600000-01                | 4.100378-01                         | 4.393739-01 | 34560714-01 | 3.524886-01          | 5 • 382331-01                 | 6.540087-02              |
| 6+400000-01                | 4.046753-01                         | 4.242703-01 | 3-133552-01 | 3.478788-01          | 5.197312-01                   | 5.755504-02              |
| 6.200000-01                | 4.001330-01                         | 4.094317-01 | 2.752827-01 | 3+439740-01          | 5.015538-01                   | 5.056213-02              |
| 64000000-01                | 3.962947-01                         | 3-948212-01 | 2.412960-01 | 3.406744-01          | 4.836560-01                   | 44431967-02              |
| 5:800000-01<br>5:600000-01 | 3.930612-01                         | 3.804061-01 | 2.109292-01 | 3:378947-01          | 4:659975-01                   | 3.874210-02              |
|                            | 3.903471-01                         | 3.661573-01 | 1.837902-01 | 3.355615-01          | 4 • 485427-01                 | 3.375757-02              |
| 5.400000-01                | 34880787-01                         | 34520490-01 | 1-595452-01 | 3.336115-01          | 4.312600-01                   | 2.930422-02              |
| 5.200000-01                | 3.861923-01                         | 3.380586-01 | 1.379079-01 | 3.319899-01          | 4 - 141217-01                 | 2.533003-02              |
| 5.000000-01                | 3.846324-01                         | 3.241663-01 | 1.186298-01 | 3.306489-01          | 3.971037-01                   | 2.178914-02              |
| 4.800000-01                | 3.833509-01                         | 3.103550-01 | 1.014928-01 | 3+295473-01          | 3.801849-01                   | 1:864153-02              |
| 4.600000-01<br>4.400000-01 | 34823056-01                         | 2.966098-01 | 8.630385-02 | 3,285487-01          | 3-633470-01                   | 1.585173-02              |
| 44200000-01                | 3.814600-01                         | 2.829179-01 | 7.289002-02 | 3.279217-01          | 3+465744-01                   | 1.338796-02              |
| 44000000-01                | 3.807820-01                         | 2-692683-01 | 6-109482-02 | 3.273389-01          | 3+298536-01                   | 1.122150-02              |
| 3.800000-01                | 3.802441-01                         | 2.556516-01 | 5.077529-02 | 3.268765-01          | 3.131732-01                   | 9.326074-03              |
| 34600000-01                | 3.798220-01                         | 2 420599-01 | 4.179972-02 | 3.265137-01          | 2.965233-01                   | 7+677499-03              |
| 3.400000-01                | 3.794952-01                         | 2.284862-01 | 3.404576-02 | 3.262327-01          | 2.798956-01                   | 6.253303-03              |
| 3,200000-01                | 3.792456-01                         | 24149248-01 | 2.739906-02 | 3.260181-01          | 2 • 63 28 28 - 01             | 5.032461-03              |
| 3.000000-01                | 3.790582-01                         | 2.019705-01 | 2-175215-02 | 3.298570-01          | 2:466788-01                   | 3.995292-03              |
| 2.800000-01                | 3.789200-01                         | 1.878188-01 | 1.700362-02 | 3.257362-01          | 2.300780-01                   | 3-129114-03              |
| 2.600000-01                | 3.788202~01                         | 1.742654-01 | 1.305756-02 | 3-256525-01          | 2.134751-01                   | 2.3 <del>98</del> 330-03 |
| 2.400000-01                | 3.787500-01                         | 14607062-01 | 94823172-03 | 3.255921-01          | 1 <b>.9686</b> 51 <b>-</b> 01 | 1+804296-03              |
| 2,200000-01                | 3.787019-01                         | 1-471367=01 | 7-214374-03 | 3.255507-01          | 1.802424-01                   | 1,325089-03              |
| 2,200000-01                | 3.786700-01                         | 1.335513-01 | 5-149808-03 | 3-255233-01          | 1:636006-01                   | P+458631-04              |
| -                          | 3.786497-01                         | 1,199438-01 | 3-552709-03 | 3.255059-01          | 1 <b>-469312-</b> 01          | 6.525383-04              |
| 1.600000-01<br>1.600000-01 | 3.786374-01                         | 1.063041-01 | 2.350960-03 | 3+254953-01          | 1.302228-01                   | 4.318089-04              |
| 14400000-01                | 3.786304-01                         | 9.261782-02 | 1.477196-03 | 3+254899-01          | 1:134568-01                   | 2.713217-04              |
| 1.200000-01                | 34786267-01                         | 7.886112-02 | 8.689831-04 | 3-254861-01          | 9.660487-02                   | 1.596091-04              |
| 1.000000-01                | 3.786249-01                         | 6.499142-02 | 4.690579-04 | 3+254846-01          | 7.961448-02                   | 8 615350-05              |
| 6.000000-01                | 3.786241-01                         | 5.092376-02 | 2.256555-04 | 3+254839-01          | 6.238161-02                   | 4-144692-05              |
| 6.000000-02                | 3.786239-01                         | 3.646008-02 | 9,293308-05 | 3 <b>.254837-</b> 01 | 4.466360-02                   | 1.706934-05              |
| 4.000000-02                | 3.786238-01                         | 2-100628-02 | 3,151651-05 | 3.254836-01          | 2.573269-02                   | 5.788746-06              |
| 2.0000000-02               | 3.786238-01                         | 1.591938-03 | 9:220938-06 | 3.294836-01          | 1.950124-03                   | 1 <b>+693642-0</b> 6     |
|                            |                                     |             |             |                      |                               |                          |

M = 10

|                              |                            |                    | - •         |                              |                                   |                                |
|------------------------------|----------------------------|--------------------|-------------|------------------------------|-----------------------------------|--------------------------------|
| x                            | g                          | f                  | h           | p/p <sub>R</sub>             | u/u <sub>R</sub>                  | ρ/ρ <sub>R</sub>               |
| 1.000000+00                  | 1.165000+00                | 8.250000-01        | 5-714286+00 | 1.000000+00                  | 1.000000400                       | 1.000000.00                    |
| 9.800000-01                  | 1.013989+00                | 7.957930=D1        | 44479631+00 | 8a703769-01                  |                                   | 1+000000+00                    |
| 9+600000-01                  | 8.974884-01                | 7-677317-01        | 34577718+00 | 7.703769-01                  | 9+645975-01                       | 7-839354-01                    |
| 9+400000-01                  | 8.062680-01                | 7.408571-01        | 2.903114+00 | 6.920755-01                  | 9+305838-01                       | 0+241006-01                    |
| 9+200000-01                  | 7.339996-01                | 7-151815-01        | 2.387824+00 |                              | 8.980085-01                       | 5.080449-01                    |
| 9+000000-01                  | 6.759734-01                | 6.906901-01        | 1.986749+00 | 6.299911-01                  | 8.668864-01                       | 4-178692-01                    |
| 84800000-01                  | 6.290893-01                | 64673442-01        |             | 5.802347-01                  | 8+372001-01                       | 3,476810701                    |
| 8.600000-01                  | 5-908489-01                |                    | 1.669230+00 | 5.39 <del>99</del> 08#01     | 6 <b>i089</b> 021 <del>=</del> 01 | 21921152-01                    |
| 8.400000-01                  |                            | 6.450864-01        | 1.413974+00 | 5.071836-01                  | 7481 <del>9229-</del> 01          | 2+474455-01                    |
| 8.200000-01                  | 5.595007-01                | 6.238453-01        | 1.205909+00 | 4-802581-01                  | 7.561761-01                       | 2 - 110341-01                  |
| 8.000000-01                  | 5.336088-01                | 6.035411-01        | 1.034180+00 | 4.580333-01                  | 7 <b>•315649~</b> 01              | 1.809815-01                    |
| 74800000-01                  | 5-121352-01                | 5.840897-01        | 8-908471-01 | 4.396010-01                  | 7•07 <b>9875-0</b> 1              | 1.558982-01                    |
| 7.600000-01                  | 4.942567-01<br>4.793261-01 | 5 • 65 4 0 63 - 01 | 7.700195-01 | 4-242547-01                  | 6-853410-01                       | 1+347534-01                    |
|                              |                            | 3.474085-01        | 6.672674-01 | 4.114387-01                  | 6.635255-01                       | 14167718-01                    |
| 7+400000-01                  | 4.668295-01                | 5.300176-01        | 5.792177-01 | 4.007120-01                  | 6+424455-01                       | 1+013611-01                    |
| 7:200000-01                  | 4.563547-01                | 5.131599-01        | 5.032714-01 | 3.917208-01                  | 6.220120-01                       | 8.807249-02                    |
| 7+000000-01                  | 4.475683-01                | 4.967679-01        | 4.374023-01 | 3.841788-01                  | 6.021428-01                       | 7+654540-02                    |
| 6.800000-01                  | 4-401983-01                | 4-807798-01        | 3.800136-01 | 3.778526-01                  | 5 • 627634 - 01                   | 6-650238-02                    |
| 6.400000-01                  | 4.340207-01                | 4.651403-01        | 3.298329-01 | 3 <b>•72549</b> 9-01         | 5-638064-01                       | 5.772075-02                    |
| 6.40 <b>000</b> 0-01         | 4.288498-01                | 4•497996-01        | 2.858350-01 | 3.681114-01                  | 5+452116-01                       | 5.002112-02                    |
| 6.200000-01                  | 4.245304~01                | 4.347138-01        | 2.471853-01 | 3.644038-01                  | 5.269258-01                       | 4.325743-02                    |
| 6.000000-01                  | <b>4.209323-01</b>         | 4.198440-01        | 2.131968-01 | 3-613153-01                  | 3-089018-01                       | 3.730944-02                    |
| 5 8000000-01                 | 4.179451-01                | 4.051562-01        | 1.832975-01 | 3.587512-01                  | 4.910985-01                       | 3.207705-02                    |
| 5.600000-01                  | 4:154753-01                | 3.906209-01        | 1.570059-01 | 3-566312-01                  | 44734799-01                       | 2-747604-02                    |
| 5 4000000-01                 | 4.134429-01                | 3.762122-01        | 1-339126-01 | 3-548866-01                  | 4=560148-01                       | 2+943471-02                    |
| 5.200000-01                  | 4.117795-01                | 3-619081-01        | 1.136650-01 | 3.594589-01                  | 4.386765-01                       | 1+989137-02                    |
| 5 <b>.000000-</b> 01         | 4.104267-01                | 3.476896-01        | 9.595640-02 | 3-522976-01                  | 4-214420-01                       | 1-479297-02                    |
| <b>4.800000-</b> 01          | 4.093340-01                | 3.335405-01        | 8.051738-02 | 3.513596-01                  | 4.042915-01                       | 1.409054-02                    |
| <b>4</b> 4 <b>60000</b> 0-01 | 4.084582-01                | 3.194471-01        | 6.710880-02 | 3.506079-01                  | 3.872086-01                       | 1-174404-02                    |
| 44400000-01                  | 4.077624-01                | 3.053979-01        | 5.551657-02 | 3.500106-01                  | 3.701792-01                       | 9-715400-03                    |
| 4.200000-01                  | 4.072149-01                | 2.913891-01        | 4-554761-02 | 3-495406-01                  | 3.551916-01                       | 7-970831-03                    |
| 4#000000-01                  | 4.067886-01                | 2.773947-01        | 3.702658-02 | 3-491748-01                  | 3.362359-01                       | 6.479651-03                    |
| 3.600000-01                  | 4.064607-01                | 2:634260-01        | 2-979348-02 | 3-468933-01                  | 3-193042-01                       | 5-213859-03                    |
| 3.600000-01                  | 4.062118-01                | 2+494714-01        | 2.370173+02 | 3+486796-01                  | 3-021895-01                       | 4-147803-03                    |
| 3+400000-01                  | 4.060256-01                | 2:355263-01        | 1.861672-02 | 3-485198-01                  | 2.854864-01                       | 3.257927-03                    |
| 3.200000-01                  | 4,058886-01                | 2.215868-01        | 1-441471-02 | 3+464023-01                  | 2+665901-01                       | 2+522574-03                    |
| 3.000000-01                  | 4.057898-01                | 2.076497-D1        | 1.098194-02 | 3.483174-01                  | 2+516966-01                       | 1.921839-03                    |
| 2.800000-01                  | 4.057199-01                | 1.937116-01        | Ba214012-03 | 3+482574-01                  | 2-348022-01                       | 1+437452-03                    |
| 2.600000-01                  | 4.056717-01                | 1.797706-01        | 6-015387-03 | 3.482161-01                  | 2+179037-01                       | 1+052693-03                    |
| 2+400000-01                  | 4.056394-01                | 1.658230-01        | 4429B970~03 | 3.481883-01                  | 2.009976-01                       | 7.523197-04                    |
| 2.200000-01                  | 4.056184-01                | 1.518661-01        | 24985802-03 | 3.481703-01                  | 1.840801-01                       | 5-225154-04                    |
| 2.000000-01                  | 4.056059-01                | 1.378960-01        | 2.004798-03 | 3-481590-01                  | 1.671466-01                       | 3.508397-04                    |
| 1.800000-01                  | 4-055974-01                | 1 239074-01        | 1.292508-03 | 3.481523-01                  | 1.501908-01                       | 2.261889-04                    |
| 1.600000-01                  | 4-055930-01                | 1.098931-01        | 7.929036-04 | 3.481485-01                  | 1.332038-01                       | 14367581-04                    |
| 14400000-01                  | 4-055907-01                | 9.584174-02        | 4.571686-04 | 3.461465-01                  |                                   |                                |
| 1.200000-01                  | 4.055895-01                | 8.173453-02        | 2.434836-04 | 3 4 4 8 1 4 5 5 <b>-</b> 0 1 | 1 • 161718-01<br>9 • 907216-02    | 6 • 000450+05<br>4 • 260963-05 |
| 1.000000-01                  | 4.055890-01                | 6.753788-02        | 1.167979-04 | 3.481451-01                  | 8.186410-02                       | 2.043963-05                    |
| 8+0000000-02                 | 4.055888-01                | 5.318465-02        | 4.857865-05 |                              |                                   |                                |
| 6.000000-02                  | 44055888-01                | 34851822-02        | 1.652750-05 | 3:481449-01                  | 6:446624~02                       | 8.501263-06                    |
| 4.060000-02                  | 4.055888-01                | 2.306878-02        | 4.246042-06 | 3=481449-01                  | 4+648875-02                       | 24892312-06                    |
| Z4000000-02                  | 4.055887-01                | 4.487311-03        | _           | 3:481448-01                  | 2.796216-02                       | 7+430573-07                    |
| F#######                     | 46033001-01                | -1401211-03        | 8,216632-07 | 3.481448-01                  | 5 • 439165-03                     | 1-437911-07                    |
|                              |                            |                    |             |                              |                                   |                                |

# TABLE 3 (Concluded)

W = ∞

|                               |                                     |  | ~                          |                      |                  |                            |
|-------------------------------|-------------------------------------|--|----------------------------|----------------------|------------------|----------------------------|
| x                             | g                                   | f  | h                          | p/p <sub>Ř</sub>     | u/u <sub>R</sub> | p∕ P <sub>R</sub>          |
|                               |                                     | 6.533333-01                                  | 4.000000+00                | 1.000000+00          | 1.000000+00      | 1.000000+00                |
| 1+000000+00                   | 1.166667+00                         |  | 4.578587+00                | 8-445934-01          | 9-641481-01      | 7-630979-01                |
| 9.800000-01                   | 1.008692+00                         | 8:034568-01<br>7:749798-01                   | 3-574958+00                | 7.628205-01          | 9.299757-01      | 5-958263-01                |
| 9.600000-01                   | 8.899572-01                         | 7.479216-01                                  | 2.844907+00                | 6-849092-01          | 8-975059-01      | 4.741512-01                |
| 9.400000-01                   | 7.990607-01                         |  | 2.299932+00                | 6.243499-01          | 8-667146-01      | 3.633221-01                |
| 9.200000-01                   | 7.284081-01                         | 7.222621-01                                  | 1.883761+00                | 5-766745-01          | 8.375371-01      | 3-139602-01                |
| 9.000000-01                   | 6.727869-01                         | 6.97 <b>9</b> 476-01<br>6.748983-01          | 1.559512+00                | 5.387381-01          | 8-098780-01      | 2.599187-01                |
| 8.800000-01                   | 6.285278-01                         |  | 1.302368+00                | 5.082787-01          | 7.896206-01      | 2.170613-01                |
| 8.600000-01                   | 5.929918-01                         | 6.530172-01                                  | 1.095235+00                | 4.836387-01          | 7-386369-01      | 1.825392-01                |
| 8,400000-01                   | 5.642452-01                         | 6.321975-01                                  | 9.260924-01                | 4.635633-01          | 7-347951-01      | 1-943487-01                |
| 8.200000-01                   | 5,408472-01                         | 6.123292-01                                  | 7 <sub>8</sub> 863231-01   | 4.471787-01          | 7-119650-01      | 1.910598-01                |
| 8.000000-01                   | 5.217084-01                         | 5.933042-01                                  | 64696418-0I                | 4.337090-01          | 6-900229-01      | 1-116070-01                |
| 74800000-01                   | 5.05 <b>9939-</b> 01                | 5.750191-01                                  | 5.713883-01                | 4.226187-01          | 6.688534-01      | 9.523139-02                |
| 7 <b>.600000-</b> 01          | 4.930551-01                         | 5.573778-01                                  |                            | 4-194731-01          | 4.483512-01      | 8-134221-02                |
| 7.400000-01                   | 4.829830-01                         | 5.402927-01                                  | 4.880532-01                | A-059196-01          | 6.284215-01      | 4.947245-02                |
| 7.200000-01                   | 4.735728-01                         | 5+236846-01                                  | 4.169547-01<br>3.560137-01 | 3.996857-01          | 4.089796-01      | 5.933562-02                |
| 74000000-01                   | 4.662999-01                         | 5-074830-01                                  |                            | 3.945439-01          | 5.899512-01      | 5-059937-02                |
| 6.809000-01                   | 4,603012-01                         | 4-916260-01                                  | 3.035 <del>7</del> 62-01   | 3,903098-01          | 54712709-01      | 4-104472-02                |
| 6-600000-01                   | 4.553615-01                         | 4-760591-01                                  | 2,584003-01                | 3.868317-01          | 5-528821-01      | 3.456246-02                |
| 6-400000-01                   | 4.513036-01                         | 4.607351-01                                  | 2.193747-01                | 1.839835-01          | 5-347860-01      | 3-894322-02                |
| 6+200000-01                   | 4-479807-01                         | 4.456133-01                                  | 1.856593-01                | 3.816601-01          | 5.167904-01      | 24609023-02                |
| 4.000000-01                   | 4.452701-01                         | 4.306587-01                                  | 1.565414-01                | 34797734-01          | 4.990096-01      | 1-190382-02                |
| 5.800000-01                   | 4,430692-01                         | 4.158413-01                                  | 1.314229-01                | 3.782499-01          | 4.819632-01      | 1-829989-02                |
| 5.600000-01                   | 4,412916-01                         | 4.011360-01                                  | 9-122587-02                | 34770267-01          | 4.498256-01      | 1-520431-02                |
| 5.400000-01                   | 4,398645-01                         | 3.865214-01                                  | 7.533385-02                | 3.760514-01          | 4 444 3 754 - 01 | 1.255564-02                |
| 5.200000-01                   | 4,387266-01                         | 3.719795-01                                  | 6.170988-02                | 34752796-01          | 4,289947-01      | 1-029891-02                |
| D <b>.000000-</b> 01          | 4.376262-01                         | 3•574956 <b>-</b> 01<br>3•430573 <b>-</b> 01 | 5.030284-02                | 3.796741-01          | 4.114487-01      | 8.983807-03                |
| 4.600000-01                   | 4.371197-01                         | 3.286545-01                                  | 4.061464-02                | 3.742035-01          | 3-945853-01      | 6.749106-03                |
| 4-600000-01                   | 4.365705-01                         | 3.142789-01                                  | 3-249539-02                | 3-738411-01          | 3-771347-01      | 9.4158 <b>98-</b> 03       |
| 4.400000-01                   | 4.361479-01                         | 2.999240-01                                  | 2.573970-02                | 3.735656-01          | 3.599088-01      | 4 <b>.2897</b> 50-03       |
| 4.200000-01                   | 4.958265-01                         | 2.855043-01                                  | 2.016373-02                | 3.799586-01          | 3.427011-01      | 1.360621-03                |
| 4.000000-01                   | 4,393850-01                         | 24712556-01                                  | 14560288-02                | 3.732053-01          | 3.255047-01      | 2.400450-03                |
| 3.800000-01                   | 4.354061-01                         | 2.569344-01                                  | 1.190993-02                | 3.730934-01          | 3.083212-01      | 1.964989-03                |
| 3.600000-01                   | 4.352757-01<br>4.3 <b>518</b> 21-01 | 2.426180-01                                  | 8.953499-03                | 3-780192-01          | 2.911416-01      | 1.492250-03                |
| 3.400000-01                   | 44351163-01                         | 2.283043-01                                  | 6.616740-03                | 3.729569-01          | 2.799651-01      | 1.102790-03                |
| 3.200000-01                   | 4.350710-01                         | 2.139914-01                                  | 4.796240-03                | 34729180-01          | 2.567897-01      | 71993733-04                |
| 3.00000000001<br>2.8000000001 | 4.350406-01                         | 14994778-01                                  | 3-401010-03                | 3.720920-01          | 2.396134-01      | 5.668350-04                |
| 2 600000-01                   | 4.350208-01                         | 1.659622-01                                  | 2.351580-03                | 3.728750-01          | 2.224346-01      | 3.919300-04                |
| 2.400000-01                   | 4,350082-01                         | 1.710430-01                                  | 1.579147-03                | 3.728642-01          | 2.052516-01      | 2-431911-04                |
| 2.200000-01                   | 4.350006-01                         | 1.567189-01                                  | 1.024757-03                | 3:728577-01          | 1.880627-01      | 1.707928-04                |
| 2.00000-01                    | 44349961-01                         | 1.423878-01                                  | 6.385211-04                | 3.728539-01          | 1.708653-01      | 1-864202-04                |
| 1.800000-01                   | 4.349937-01                         | 1.280471-01                                  | 5.788409-04                | 3.728517-01          | 1,936565-01      | 6-934014-05                |
| 14600000-01                   | 4.349924-01                         | 1.136932-01                                  | 2.114436-04                | 3.728506-01          | 1.344310-01      | 3-527 <del>394</del> -05   |
| 1.400000-01                   | 4-349918-01                         | 9.932016-02                                  | 1.096255-04                | 3.728501-01          | 1.191842-01      | 1.827092-05                |
| 1,200000-01                   | 4.349915-01                         | 8.491851-02                                  | 5+149572-05                | 3.728499-01          | 1.019022-01      | 8.582620-06<br>3.537222-06 |
| 1.060000-01                   | 44349914-01                         | 7-047098-02                                  | 2.122333-05                | 9.728498-01          | 3.454517-02      | 1-114037-06                |
| 8.000000-02                   | 44349913-01                         | 5.594315-02                                  | 7.284223-04                | 3.72 <b>849</b> 7-01 | 6.719178-02      | 34181543-07                |
| 64000000-02                   | 4.349913-01                         | 4.125472-02                                  | 1.908938-06                | 3-728497-01          | 4.950566-02      | 5.6105 <del>9</del> 5-06   |
| 4.000000-02                   | 44349913-01                         | 2.616478-02                                  | 3.306357-07                | 3,728497-01          | 3+199773-02      | 9.533484-09                |
| 2.000000-02                   | 44349913-01                         | 9 <b>.468790-0</b> 3                         | 3.320090-08                | 2.725497-01          | 1+134255-02      |                            |

TABLE 4
SPHERICAL BLAST WAVES IN AIR

M = 1.1

| x                            | g             | f                    | h  | p/p <sub>R</sub>               | u/u <sub>R</sub>   | ρ∕ P <sub>R</sub>    |
|------------------------------|---------------|----------------------|--|--------------------------------|--|----------------------|
| 1.000000+00                  | 1.028926+00   | 1:446279=01          | 1.169082+00                                  | 1.000000+00                    | <del></del>  | <del></del>          |
| 9.800000-01                  | 1.010167+00   | 1.352150-01          | 1.153787+00                                  | 9.817686=01                    | 1.000000+00  | 1.000000+00          |
| 9 • 600000=01                | 9.932304-01   | 1.265851=01          | 1.139905+00                                  | 94653084=01                    | 9:349163-01  | 9:869169=01          |
| 9.400000=01                  | 9.779496-01   | 1.186925-01          | 1.127319+00                                  | 9.504572-01                    | 8:752468=01  | 9.750429-01          |
| 9-200000-01                  | 9.641541-01   | 1.114795-01          | 1-115906+00                                  | 9.370495-01                    | 8•206 <u>7</u> 4 <u>8<b>~01</b><br/>7•708022<b>-</b>01</u> | 9+642775-01          |
| 9.000000-01                  | 9.516800-01   | 1.048835-01          | 1.105543+00                                  | 9.249260-01                    |  | 9.545149-01          |
| 8.800000-01                  | 9.403753-01   | 9.884188-02          | 1.096115+00                                  | 9:139391-01                    | 7•2519 <u>59-01</u><br>6•834221-01                         | 9 <u>44</u> 56505=01 |
| 8.600000-01                  | 9.301031=01   | 9:329475-02          | 1.087517+00                                  | 9.C39557=01                    | 6.450676-01  | 9+375861-01          |
| 8.400000-01                  | 9.207423-01   | 8.818715-02          | 1.079655+00                                  | 8.948581-01                    | 6.097521-01  | 9-302317-01          |
| 8.200000-01                  | 9.121867-01   | 8.346951-02          | 1.072447+00                                  | 8.865430=01                    | 5 771329=01  | 9+235070-01          |
| 8.000000-01                  | 9.043445-01   | 7+509779-02          | 1.065820+00                                  | 8.789212-01                    | 5 • 469056-01  | 9 <u>+173412=01</u>  |
| 7.800000-01                  | 8.971359-01   | 7.503319-02          | 1.059710+00                                  | 8+719153-01                    |  | 9-116724-01          |
| 7.600000-01                  | 8.904924-01   | 7.124174-02          | 1.054065+00                                  | 8 654585=01                    | 5 • 188017 <u>=01</u>                                      | 9:064468-01          |
| 7:400000-01                  | 8.843545-31   | 5.769370=02          | 1.048835+00                                  | 8+594932=01                    | 4.925865-01  | 9.016174-01          |
| 7.200000-01                  | 8.736709-01   | 6.436311=02          | 1.043980+00                                  | 8.539694-01                    | 4.680543=C1  | 9-971439-01          |
| 7.000000=01                  | 8.733971-01   | 64122726=02          | 14039463+00                                  |                                | 4+450256=01  | 8.929910-01          |
| 6.800000=01                  | 8.684945-01   | 5.826628-02          | 1.035255+0C                                  | 8-488439-01                    | 44233434=01  | <u>0</u> 4691279=01  |
| 6.600000=01                  | 84639295-01   | 5-546272-02          | 1.031327+0C                                  | 8:440791-01                    | 4+0287C4-01  | 8-855280-01          |
| 6.400000=01                  | 8.596725-01   | 5-280121-02          | 1.027655+00                                  | 84396424=01                    | 3.834857=01  | 8+821680=01          |
| 6.200000=01                  | 8.556977-01   | 5.026821-02          | 1.024218+00                                  | 8.355051-01                    | 3+650832-01  | 8.790271-01          |
| 6.000000-01                  | 8.519825-01   | 4.785172702          | 1.02-218+0C                                  | 8.316421-01                    | 3 • 475693-01  | B•760875=01          |
| 5.800000=01                  | 8,480058=01   | 4.554108-02          | 1.017978+00                                  | 8:280313-01                    | 3.308610-C1  | 8 • 733333°-01       |
| 5.600000-01                  | 8.452528-01   | 4-232680-02          | 1.017978400                                  | 8.246533=01                    | 3 • 148846-01  | 8.707504-01          |
| 5.400000-01                  | 84422047-01   | 4-120038-02          | 1.012483+0C                                  | 8+214907-01                    | 24995743=01  | B • 683261=01        |
| 5.200000=01                  | 8.393487-01   | 3.915421=02          | 14009982+00                                  | 8 185284-01                    | 2-848717-01  | 8-660493-01          |
| 5.000000-01                  | 8.366721-01   | 3.718143-02          | 1.007631+00                                  | 8 1 1 5 7 5 2 6 - 0 1          | 2+707238-01  | 8.639102-01          |
| 4.600000=01                  | 8.341637=01   | 3.527585-02          | 1.005422÷00                                  | 8:131512-01                    | 2 • 5 7 0 8 3 4 - 0 1                                      | 8.618997-01          |
| 4.600000-01                  | 8.318136-01   | 2.343185-02          | 1.003345+00                                  | 8 • 107134=01<br>8 • 084293=01 | 2.439077-01  | 8.600100-01          |
| 4.400000-01                  | 8.296127-01   | 3.164434=02          | 1.001394+00                                  | 8.062903-01                    | 2 • 311577=01  | 5.582336 <b>~</b> 01 |
| 4.200000-01                  | 8.275530-01   | 2.990866-02          | 94995598=01                                  | 8:042885=01                    | 2.187983=01  | 8.565641-01          |
| 4.000000-01                  | 8.256271-G1   | 2.822054-02          | 9.978379-01                                  | 8.024166-01                    | 2.067973=01  | 8+549956=C1          |
| 3.800000-01                  | 8.238285=01   | 2.657609=02          | 9.962220-01                                  | 84006687-01                    | 1.951252=01  | 8.535228-01          |
| 3.600000-01                  | 8.221512=01   | 2+497168-02          | 9.947069-01                                  |                                | 1.837549-01  | 84521406-01          |
| 3.400000-01                  | 8.205900-01   | 24340398-02          | 94932877=01                                  | 74990386=01                    | 1+726616=01  | 8.508446-01          |
| 3.200000-01                  | 8.191399-01   | 2.186991-02          | 9.919599=01                                  | 7.975213=01                    | 1-618221-01  | 8.496306-01          |
| 3.0000000-01                 | 8.177966-01   | 2.036655-02          | 9.907194-01                                  | 7•961119=01                    | 1.512150-01  | 8+484949~01          |
| 2.600000-01                  | 8 • 155552-D1 | 1.859123-02          | 94895622-01                                  | 7:948064=01                    | 1+408204-01  | 8-474338=01          |
| 2.600000=01                  | 8.154151=01   | 1.744138=02          |  | 7.936009=01                    | 1.306195-01  | 8 • 464440-01        |
| 2.400000-01                  | 8.143701-C1   | 1.601460=02          | 9•884846 <b>~</b> 01<br>9•874830 <b>~</b> 01 | 7.924918-01                    | 1.205948-01  | 8.455222-01          |
| 2.200000-01                  | S.134184-01   | 14460859=02          |  | 7.914762-01                    | 1-107297-01  | 8-446654-01          |
| 2.0000000001                 | 8.125574-01   | 1.322115-02          | 9.865536-01                                  | 7.905513-01                    | 1.010082-01  | 8-438705-01          |
| 1.800000-01                  | 8 • 117849=01 | 1.185010-02          | 9.656928-01                                  | 7-897145-01                    | 9 • 141495-02  | 8.431341-01          |
| 1.600000-01                  | 8.110988-01   | 1.049326=02          | 9.548965-01                                  | 7-889637-01                    | 8 • 193509=02  | 8 • 424530-0:        |
| 1.400000-01                  | 8+104973=01   | 9.148329-03          | 9:8416C2=01                                  | 7 882969=01                    | 7 • 255349=C2  | 8 • 418232 - C1      |
| 1.200000=01                  | 8.099790-01   | 7.812677=03          | 9 • 83 4785 <del>- 01</del>                  | 7.877123-01                    | 6.325426-02  | 8.412401-01          |
| 1.000000-01                  | 8.07:424-01   | 5:482725=03          | 9:828442=01<br>6:822472=01                   | 7.872086-01                    | 5.401917-02  | 8.406976=01          |
| 3.000000=02                  | 8 C91863-01   | 5.152693=03          | 9.822477=01                                  | 7.867842-01                    | 4 • 482390-02  | B-401869-C1          |
| 5.000000-02                  | 5.089098=01   | 3.608211-03          | 9:815713-01                                  | 7 • 8 6 4 3 8 2 - 0 1          | 3.562718=02  | 8+396943=C1          |
| 4.0000000 02<br>4.0000000=02 | 8.037112-01   | 2+397194 <b>=C</b> 3 | 9.810874=01<br>C.804316=01                   | 7:861694=01                    | 24633110-02  | 8.391948-01          |
| 2.000001012                  | 8.035862=01   | 5.167283-04          | 9±804315-01<br>9±795073-01                   | 7:859764-01                    | 1+657491-C2  | 8.385338-01          |
|                              |               | - 94 A - 50 A - A4   | 50199015TUL                                  | 74858550-01                    | 3.572813-03  | 8.378432-01          |

H = 1.2

| x                          | g           | f                        | h           | p/p <sub>R</sub>     | u/u <sub>R</sub> | ρ/ ρ <sub>R</sub>    |
|----------------------------|-------------|--------------------------|-------------|----------------------|------------------|----------------------|
| 1.000000+00                | 1.050926+00 | 2.546300-01              | 1.341615+00 | 1.300000+60          | 1.200000+00      | 1.00000+00           |
| 9.800000-01                | 1.021858+00 | 2.423215-01              | 1.314727+00 | 9.723410-01          | 9.516616=01      | 9.797579-01          |
| 9.600000-01                | 9.947617-01 | 2.304964=01              | 1.287455+CJ | 9.465574=01          | 9.052211-01      | 9.611202-01          |
| 9.400000-01                | 9.695414-01 | 2.191697-01              | 1.265745+00 | 9-225592-01          | 8.607380-01      | 9.434484-01          |
| 9.200000-01                | 9.460990-01 | 2.083499=C1              | 1 243537+CC | 9.002528-01          | 8 182 - 59 - 01  | 9.268952-01          |
| 9.000000-01                | 9.243330-01 | 1.980391-01              | 1.222764+00 | 8.795415-01          | 7.777527=01      | 9.114115-01          |
| 8.800000-01                | 9.041403-01 | 1.382332-01              | 1.203354+00 | B=603274=01          | 7.392421-01      | 3.969437-01          |
| 8.600000-01                | 8.854178=01 | 1.789222-01              | 1.185231+00 | 8.425121-01          | 7.026754-01      | 0.834360=01          |
| 8 400000-01                | 8.690634=31 | 1.700917-01              | 1.168321+0C | 8.259986-01          | 6.679956-01      | 0.708313=01          |
| 8 200000 = 01              | 8.519779-01 | 1.517232-01              | 1.152544+9C | 8.106927-01          | 6.351306-01      | 0.591721-01          |
| 5.000000-01                | 8.370661-01 | 1.537960-01              | 1 137826+0C | 7.965034-01          | 6.039982-01      | o.481017 <b>-</b> 01 |
| 7.800000-01                | 8.232373-01 | 1.462869=01              | 1.124093+00 | 7.833447=01          | 5.745077-01      | å•378652 <b>=</b> 01 |
|                            | 9-104063-01 | 1.391719-01              | 1.111274+00 | 7.711355-01          | 5.465651-01      | 6.283100-01          |
| 7.600000=01<br>7.400000=01 | 7.984938-01 | 1.374267=01              | 1.099301+00 | 7.598002-01          | 5.200750-01      | 8.193861-01          |
| 7.200000-01                | 7.874262-01 | 1.260272-01              | 1.088113+60 | 7.472590-01          | 4.949424=31      | 8-110466-01          |
|                            | 7.771359-01 | 1.199497=01              | 1-077650+00 | 7.394773-01          | 44710747-01      | 5.032477-C1          |
| 7.0000000-01               | 7.675610-01 | 1.141717-01              | 1.067857+00 | 7.303664=01          | 4.483828-01      | 7-959490-01          |
| 6.800000=01                | 7.586449=01 | 1.306714-31              | 1.058685+00 | 7.218824-01          | 44257818=01      | 7.891130-C1          |
| 6.600000-01                | 7.503364-01 | 1.034285=C1              | 1.050009+00 | 7.139765-01          | 4.061916=01      | 7.827052=01          |
| 6.400000=01<br>6.200000=01 | 7.425889=01 | 9.842384=02              | 1.042025+66 | 7.066043-01          | 3.865368-01      | 7.766943=01          |
|                            | 7.353598=01 | 9.363942-02.             | 1.034455+00 | 6.997256-01          | 3+677471-01      | 7.710515-01          |
| 6.000000=01<br>5.600000=01 | 7.286111=01 | 6.905360 <del>-</del> 02 | 1.027342+00 | 6.933040-(1          | 3.497570=01      | 7.657502-01          |
| 5.500000-01                | 7.223082-01 | p=466599=02              | 1.020656+00 | 6.573065-01          | 3.325056-01      | 7.607665=01          |
| 5.400000-01                | 7.164197-01 | 8 044597-C2              | 1.014366+00 | 6.817034-01          | 3.159368-01      | 7.560784-01          |
| 54200000 01                | 7.109174=01 | 7.638853-02              | 1.000446+00 | 6.764677=01          | 2.999982-01      | 7.516657=01          |
| 5.000000-01                | 7.057756-01 | 7.247830-02              | 1.002871+0C | 6.715750-01          | 2.846417-01      | 7.475101-01          |
| 4.800000-01                | 7.009712-01 | 54870490-02              | 9.976180-01 | 6.670034-01          | 2.698225-01      | 7:435946-01          |
| 4.600000-01                | 6.964832-01 | 6.505781=C2              | 9.926664-01 | 6.527329-01          | 2.554994-31      | 7.399038=01          |
| 4.400000-01                | 6.922926=01 | 5.152728-02              | 9.879970-01 | 64587454-01          | 2.416341-01      | 7.364234-01          |
| 4.200000-01                | 6.333624-01 | 5.810428-02              | 9.835922-01 | 6.55C246-01          | 2.281911-01      | 7.331402=01          |
| 4.000000-01                | 6.347368=01 | 5.478041-02              | 9.794355-01 | 6.515557-01          | 2.151373=01      | 7.300419-01          |
| 3.800000-01                | 6.813419-01 | 5.154786-02              | 9.755115-01 | 6.483253-01          | 2.024423-01      | 7.271171-01          |
| 3.600000-01                | 6.781848-01 | 4.839936-02              | 9.718058-01 | 6.453212-01          | 1.900773-01      | 7,243550-01          |
| 3.400000-C1                | 6.752540-C1 | 4.532812=02              | 9.683045-01 | 6.425324-01          | 1.780157-01      | 7.217452=01          |
| 3.200000=01                | 6.725390-01 | 4.232777-02              | 9.649946-01 | 6.399490-01          | 14662325=31      | 7:192781=31          |
| 3.000000-01                | 6.700304-01 | 3-939234-02              | 9.618632-01 | 6.375619-01          | 1.547043=01      | 7-169440-01          |
| 2.800000-01                | 6.677195-01 | 3 -651618-02             | 9.588973-01 | 6.353631-01          | 1.434088-01      | 7.147334-01          |
| 2.600000-01                | 6.655987-01 | 3.369396-02              | 9.560841-01 | 6.333451-01          | 1.323252-01      | 7.126265-01          |
| 2.400000-01                | 6.635611-01 | 3.092060-02              | 9.534100-01 | 6.315013-01          | 1.214335=01      | 7.106433-01          |
| 2.200000-01                | 6.619002-01 | 2.819120-02              | 94508601-01 | 6.298258-C1          | 1+107244=01      | 7.087427=01          |
| 2.000000-01                | 6.603106-01 | 2.350104-02              | 9.484180-C1 | 6.233132=01          | 1.001494-01      | 7:069224-01          |
| 1.800000-01                | 6.588872-01 | 2.284541-02              | 7-460642-01 | 6.269588-01          | 8.972003=02      | 7:051679=01          |
| 1.600000~01                | 6.576256-01 | 2.021952-02              | 9.437745-01 | 6.257583-01          | 7.940747-02      | 7.034612-01          |
| 1.400000-01                | 6.565219=01 | 1.751821-02              | 9.415177-01 | 6.247081-01          | 6.919142=C2      | 7:017791=01          |
| 1.200000-01                | 6.555725-01 | 1.503533=02              | 9.392499-C1 | 6.238047-01          | 5,904776-02      | 7.000388=C1          |
| 1.000000-01                | 6.547744=01 | 1.246228~02              | 9.369059-01 | 6.230453 <b>-</b> 01 | 4 894271-02      | 6+983416 <b>-</b> 01 |
| 8.000000-02                | 6.541249-01 | 9.883711-03              | 9,343794-01 | 6.224272-01          | 3.881578-02      | 6.964585=C1          |
| 6.000000-02                | 6.536212-01 | 7.261765-03              | 9.314755=01 | 5.219480-01          | 2.851870-02      | 6.942940=01          |
| 4.000000-02                | 6.532600~01 | 4.454247-03              | 9:277707-01 | 6.216042-01          | 1.749302-02      | 6.915325-01          |
| 2.000000-02                | 6.530295-01 | 3.564491-04              | 9,220798-01 | 6.213830-01          | 1-399871-03      | 6.872907=01          |

### M - 1.4

| x                    | B                    | f                             | h                                     | p/p <sub>R</sub>              | u/u <sub>R</sub>     | ρ/ρ <sub>R</sub>     |
|----------------------|----------------------|-------------------------------|---------------------------------------|-------------------------------|----------------------|----------------------|
| 1.000000+00          | 1.081633+00          | 4.081632-01                   | 14689655+00                           | 14000000+00                   | 1.0000000+00         | 1.0000000+00         |
| 9.800000-01          | 1.036091+00          | 3.929872-01                   | 1.636041+00                           | 94578951-01                   | 94628188=01          | 9+682696=01          |
| 9.600000=01          | 9.933731-01          | 3.780574-01                   | 14585142+0C                           | 9-184016-01                   | 9.262407=C1          | 9+381457=01          |
| 9+400000=01          | 9.533357-01          | 3+633945=C1                   | 1.536864+00                           | 8+613859=01                   | 8+903168-01          | 9+095729=01          |
| 9 200000=01          | 9.158399-01          | 3+490193-01                   | 14491114+00                           | 8-467199-01                   | 8.550973=01          | 8+824960-01          |
| 9.000000-01          | 8.807525-01          | 3.349514-01                   | 1.447799+00                           | 8.142806=01                   | 8.206310-01          | 8.568605-01          |
| 8.800000-01          | 8+479453-01          | 3.212095-01                   | 1.406827+00                           | 7.839494-01                   | 7-869634-01          | 8.326120-C1          |
| 8.600000-01          | 84172943-01          | 3.078107-01                   | 1.368107+00                           | 7.556118-C1                   | 7.541364-01          | 8-096960-Cl          |
| 8 • 400000 = 01      | 7.886901-01          | 2+947700=01                   | 1.331546+00                           | 7.291571-01                   | 7.221867-01          | 7-880581-C1          |
| 8.200000-01          | 74619869=01          | 2.821001-01                   | 1.297052+00                           | 7.C44785-C1                   | 6.911455-01          | 7.676434=01          |
| 8.000000-01          | 7.371028=01          | 2+698110-01                   | 1.264533+00                           | 6.814724-01                   | 6.610372=01          | 7.483971-01          |
| 7 800000-01          | 7.139197-01          | 2.579099-01                   | 1.233895+00                           | 6.600390-01                   | 6.318793-01          | 7.302643-01          |
| 7.600000-01          | 6.923335-01          | 2.494008=01                   | 1.205045-00                           | 6.400819=01                   | 6.035822-01          | 7.131899=01          |
| 7.400000=01          | 6.722439=01          | 2.352551-01                   | 1.177891+00                           | 6.215086-01                   | 5.764487#01          | 6.971194-01          |
| 7-200000-01          | 6.535549-01          | 2.245611-01                   | 1.152343+00                           | 6.042301=01                   | 5.501748-01          | 6.819989=01          |
| 7.000000-01          | 6.361746-01          | 2.142244-C1                   | 1.128309+00                           | 5.881613-C1                   | 5.248498-01          | 6.677750-C1          |
| 6.800000-01          | 6+200157-01          | 2.042691-01                   | 1.105703+00                           | 5.732221-01                   | 5.004569-01          | 6.543957=01          |
| 6.600000-01          | 6.049952-01          | 1.946833=01                   | 1.064438+00                           | 5.593352-01                   | 4.769742-01          | 6.4181C3=C1          |
| 6.400000-01          | 5.910349-01          | 1.854592-01                   | 1.064431+00                           | 5-464285-C1                   | 4.543751-01          | 6 299696-C1          |
| 5.200000-01          | 5.780615-01          | 1.765834-01                   | 1.045603+00                           | 5.344342-01                   | 4.326293-01          | 6-188263-C1          |
| 6.000000-01          | 54660050=01          | 1.680423=01                   | 1.027876+00                           | 5.232885-01                   | 4-117038-01          | 6.083350-01          |
| 5.000000=01          | 5.546041=01          | 1.598217=01                   | 1-011176+00                           | 5.129321=01                   | 3.915632=01          | 5.984524-01          |
| 5+600000-01          | 5.443960-01          | 1.519064=01                   | 9.954383-01                           | 5.033098-01                   | 3.721768=C1          | 5-891371-01          |
| 5.4000UC=01          | 3.347271-01          | 1.442812=C:                   | 9.805912-01                           | 4.943704-01                   | 3.534889-C1          | 5.803500-01          |
| 5.200000-01          | 5.257455≈01          | 1.369305~01                   | 9.665738-01                           | 4.360566-01                   | 3.354798-01          | 5.720540=01          |
| 5.000000=01          | 5.174043-01          | 1.298387-01                   | 9.533268-01                           | 4.783549-01                   | 3.181055-01          | 5•642139 <b>-</b> 01 |
| 44600000=01          | 5.096601-01          | 1.229913-01                   | 9.407940-01                           | 4.711952-01                   | 3.C13287-01          | 5:567966-01          |
| 4.600000-01          | 5.024731-01          | 1.163726-01                   | 9.289223=C1                           | 4.645507=01                   | 2.851129-01          | 5,497704=Cl          |
| 4.400C00=01          | 4.956070-01          | 1.099683-51                   | 9.176610-0:                           | 4.583876-01                   | 2.694224-01          | >•431056-C1          |
| 4 • 203000-01        | 4.396282-01          | 1.037644=01                   | 9.069621=C1                           | 4.526752-01                   | 2•542228-01          | ∮•367736 <b>=</b> 01 |
| 4.000000-01          | 4.839084 <b>-</b> 01 | 9.774724-02                   | 8.967794-01                           | 4.473852-01                   | 2:394808-01          | 5.307471=01          |
| 34800000-01          | 4.786137 <b>-</b> 01 | 9.190381-02                   | 3 <b>:</b> 870 <b>:</b> 83 <b>-01</b> | 4.424920-01                   | 2 • 251644-01        | 5 <b>4249997=01</b>  |
| 3 <b>₄</b> 600000=01 | 4m737249#01          | 8•622157 <del>-</del> 02      | d•7778÷2 <b>−</b> 01                  | 4 <b>∗</b> 379721 <b>~</b> 01 | 2:112429-01          | 5•195057⇒01          |
| 3-4000000-01         | 4.692167-01          | 8.068953~02                   | 5∎688 <b>74-01</b>                    | 4.538041-01                   | 1•97685°≕C1          | 5 <u>-142396</u> -01 |
| 3+20000c=01          | 4.650683=01          | 7.529323-02                   | 8.603317-01                           | 4.299588-01                   | 1:344684 <b>-</b> C1 | 2•091760 <b>−</b> 01 |
| 3.00000nn=01         | 4.612605=01          | 7.002470-02                   | 8.520742-01                           | 4.264484-0]                   | 1.715606-01          | 5.042890-01          |
| 2•400000 <b>-</b> 01 | 4 <b>.577731=01</b>  | 5 <b>-</b> 487242 <b>-</b> 32 | 3.440694-01                           | 4.232270-01                   | 1.589375-01          | 4-995514-01          |
| 2.600000=01          | 4.545995=01          | 3•902659 <b>~</b> 32          | 5.362679-01                           | 4.202901-01                   | 1:465752-01          | 4=949342-01          |
| Z.400030=01          | 4.51716/-01          | 5.487745-32                   | 5 <b>±256158</b> =01                  | 4:176246-01                   | 1:344498-01          | 4=904054 <b>-01</b>  |
| 24200000-01          | 4.491140-01          | 5.001591-02                   | 8.210517-01                           | 4.152186-C1                   | 1:225390-01          | 4.859286-01          |
| 2.000000=01          | 4.467307=01          | 4.523325-02                   | 8.135032-01                           | 4.130615-01                   | 1.108215-01          | 4-814612-01          |
| 1.8009000=01         | 4.447063-01          | 4.05210? <b>-</b> 02          | E.058817=01                           | 4.111435-01                   | 9.927668=02          | 4.769505=01          |
| 1.605000=01          | 4.429811=C1          | 3.587144-02                   | 74980742-01                           | 4.094561-01                   | B•788305=02          | 4.723297-01          |
| 1.400000=01          | 4-412969-C1          | 3.127674-02                   | 7.899295-01                           | 4.079915-01                   | 7.662832=02          | 4.675094-01          |
| 1.200000-01          | 4.309460-01          | 2.672985-02                   | 7.512343-01                           | 4.067425-01                   | 6+548625=C2          | 4.623632-01          |
| J • 000000=01        | 4.368215-01          | 2.222461-02                   | 7.716674=G1                           | 4.057029-01                   | 5.445030=02          | 4.567012-01          |
| e.oouqqo=02          | 4.379171-01          | 1.775627-02                   | 7.607034-01                           | 4.048667-01                   | 4.350266-02          | 4.502123-01          |
| 6.000000=02          | 4.372269=01          | 1.332521-02                   | 7.473769-01                           | 4.042287-01                   | 3 • 264678 = C2      | 4-423252-01          |
| 4.0000000=02         | 4:367453-01          | 8.954022 <b>-</b> 03          | 7.295533=01<br>7.202320=01            | 4.037834-01                   | 2:193736=02          | 44317766=01          |
| 2 • 30 n 3 n n = 3 2 | 4.364666-01          | 4.568586-03                   | 7.003530-01                           | 4.035258-01                   | 1.192804-02          | 4-144947-01          |

M = 1.6

|                            |                               |                      | 1.0                        |                            |                            |                               |
|----------------------------|-------------------------------|----------------------|----------------------------|----------------------------|----------------------------|-------------------------------|
| ×                          | g                             | f                    | h                          | p/p <sub>R</sub>           | u/u <sub>R</sub>           | ρ∕ P <sub>R</sub>             |
| '                          |                               | 5.078123-01          | 2.031745+00                | 1.000000+00                | 1.6000000+00               | 1.0000000+00                  |
| 1.0000000+00               | 1.101562+00                   |                      | 1.943760+00                | 9-458238-01                | 9.6682/6~01                | 9.566949-01                   |
| 5490000 <b>=01</b>         | 1.041884+00                   | 4,909670=01          | 1.860693+00                | g.953659-Cl                | 9.339660=01                | 9-158103-01                   |
| 9.600000=01                | 9.863014-01                   | 4.742794-01          | 1.782300+00                | 8.493521-01                | 9.014559-01                | 8 <b>.7723</b> 02 <b>-</b> 01 |
| 9.400000-01                | 9.345568-01                   | 4.577679-01          |                            | 8.046821-01                | 8.693198-01                | 6.408437 <b>-</b> 01          |
| 9.200000-01                | 8.864076-01                   | 4.414513-01          | 1.708232+00<br>1.638693+00 | 7.540294=01                | 8.376111-01                | a.065443=01                   |
| 9.000000#01                | 8.416261-01                   | 4.253492-01          |                            | 7.262395-01                | 8.063641-01                | 7.742300-01                   |
| 3.800000=01                | 7.999982-01                   | 4.094816-01          | 1.573035+00                | 6.911298-01                | 7.756182-01                | 7:438024=01                   |
| 3.6000000=01               | 7.613225-01                   | 3.938685-01          | 14511217+00                | 5.585280-01                | 7.454124-01                | 7.151668-01                   |
| a.490000-01                | 7.254097-31                   | 3.785296-01          | 1.453037+00                | 6.282721-01                | 7+157845-C1                | 0.882318-01                   |
| 3.200000-01                | 6.923819 <b>-</b> 01          | 3.654842-01          | 14398312+00                | 6.202721-01<br>6.002093-01 | 6.8677C3=11                | 64629091-01                   |
| 8.000000-01                | 6.611680-C1                   | 3.487504-01          | 1.346862+00                | 5.741951-01                | 6.584031-01                | 6.391129=01                   |
| 7.800000-01                | 6.3251i7 <b>≃</b> 01          | 3.343452=01          | 1,298515+00                | 5.500934=01                | 6.307127-01                | 6.167604-01                   |
| 7.600030-01                | 6.059622-01                   | 3 202 237 91         | 1.253100+00                | 5.277756-01                | 6.337249-01                | 5.957709-01                   |
| 7.400000-01                | 5 <b>.</b> 81377 <b>7-</b> 01 | 2.065749-01          | 1,210455+00                | 5.071201-01                | 5.774608-01                | p.760663=01                   |
| 7.200000-01                | 5.586Z45 <b>~</b> 0l          | 2.932417-01          | 1.170420+00                |                            | 5.51936c01                 | p.575708=01                   |
| 7.000000-01                | 5.375761-01                   | 2,902802-01          | 1.132842+00                | 4.350124-01                | 5.271628-01                | > 402108-01                   |
| 6.8000000701               | 5.181135-01                   | 2.676998-01          | 1.097571+00                | 4.703442-01                | 5.031450~31                | 5.239153-01                   |
| 6.6000C0=01                | 5.001246=01                   | 2.555032-01          | 1.064462+00                | 4,540139-01                | 4.798830=01                | 5.086156-01                   |
| 6.400000-01                | 4.835039=01                   | 2.436505-01          | 1.033377+00                | A = 389256=C1              | 4.573714=01                | 942454=01                     |
| 6.200000-01                | 4.681525-01                   | 2.322588-01          | 1.004181-00                | 4:249895-01                | 4.356000-01                | 4.807412-01                   |
| 5.000000=01                | 4.539779-01                   | 2.212031-01          | 9.767437=01                | 4.121218=C1                | 4-145543-01                | 4-680419-01                   |
| 5.800000-01                | 4.408936-01                   | 2.105158-01          | 9,509419-01                | 4.002439-01                | 3.942156-01                | ++560891=01                   |
| 5.600000-01                | 4.288192=01                   | 2.001875-01          | 9.266568-01                | 3.892827=01                | 3.745619-01                | 4.448270-01                   |
| 3.400000=01                | 4.176799=01                   | 1.902072-01          | 9.037751-C1                | 3.791704=01                | 3.555686-01                | 4.342025-01                   |
| 5 200000-01                | 4.074066-01                   | 1.805521-01          | 8.821858-Cl                | 3.698443-01                | 3.372087-01                | 4-2/1645=C1                   |
| 5.0000000001               | 3.979354-01                   | 14712387-01          | 8.617949-01                | 3.612463-01                | 3.194535=31                | 4.146659-01                   |
| 4.800000-01                | 34892073-01                   | 14622224-01          | 8-424954 <b>-</b> 01       | 3.533230-01                |                            | 4-056596-01                   |
| 4.600000-01                | 3.511683-01                   | 1.534980-01          | 8.241969-01                | 3.460252-01                | 3:022731-01<br>2:856368-01 | 3.971020-01                   |
| 4400006-01                 | 3.737586-01                   | 1.450499=01          | 5.368100-01                | 3.393079=01                |                            | 3.589509=01                   |
| 4.20000C=01                | 3.669632-01                   | 1.368524-01          | 7.702491-01                | 3.331298-01                | 2.695138=01                | 3.811656-01                   |
| 4.000000=01                | 3.607101-01                   | 1.259198-01          | 7.744314-01                | 3.274532-01                | 2.538729=01                | 3.737067=01                   |
| 3.000000-01                | 3.549715-31                   | 1.212067-01          | 7.592768-01                | 3.222437=01                | 2.386831=01                | 3,665354=01                   |
| 3.600030-31                | 3.497131-31                   | 1.137064-01          | 7_447C66=Cl                | 3+174700-01                | 2.239143-01                | 3.596133-01                   |
| 3.400000-01                | 3.449032-01                   | 1:064051-01          | 74336426=Cl                | 3.131036-01                | 2:095364=01                | 3.529016-01                   |
| 2.200000-01                | 0.405134-01                   | 9.928765-02          | 7.170061=01                | 3.C91185-01                | 1.955203-01                | 3.463606-01                   |
| 3.000000-01                | 2.365177-01                   | 9.233951 <b>-0</b> 2 | 7.037164-01                | 3.054912-01                | 1.818379-01                | 3499487=01                    |
| 2.800000-01                | 3,328925-01                   | 8.554686-02          | 6.906891=01                | 3.022003-01                | 1.684616-01                | 3.336212-01                   |
| 2.500000-01                | 3.296165-01                   | 7.889521-02          | 6.778333=01                | 2.992264-01                | 1.553649=01                | 273290-01                     |
| 2.400000-01                | 3.266704-01                   | 7.237458-02          | 6,650492-01                | 2.965519-D1                | 1.425223=01                | 210162=01 ور                  |
| 2 2000000=01               | 3.240364-01                   | 6.596947-03          | omp22231 <b>-</b> 01       | 2.941607-01                | 1.299092-01                | Je146171=01                   |
| 2.000000-01                | 3.216985-01                   | 5.966885 <b>~</b> C2 | 6_392218-01                | 2+920384=01                | 1.175018-01                | 3.080520-01                   |
| 1.800000-01                | 3.196421-01                   | 5.346122-02          | 6.258833-01                | 2.901716-01                | 1.052775-01                |                               |
|                            | 3.178537-01                   | 4.733561-02          | 6-120022-01                | 2.985482-01                | 9.321477-02                | 3.012200=01                   |
| 1.600000~01<br>1.400000~01 | 3.165215=0.                   | 4.128165-02          | 5.973074=01                | 2.871571-01                | 8 • 129318 = 02            | 2.939874=01                   |
| 1.200000-01                | 3.150334-01                   | 3.528996-02          | 5.814213=01                | 2.859878-01                | 6.949405-02                | 2.361684-01                   |
| 1.000000=01                | 3.139789-01                   | 2.935243-02          | 5.637546-01                | 2.850305-01                | 5.780172=02                | 2.774879=01                   |
| 2.000000=02                | 3.131474-01                   | 2.345429=02          | 5,434993=01                | 2.842757-01                | 4-620661-02                | 2.675037=01                   |
|                            | 3-125282-01                   | 1.763041-02          | 5.189492-01                | 2.837136-01                | 3.471836-02                | 2.554204=01                   |
| 6.000000=02                | 3.121101-01                   | 1.189902-02          | 4,366404-01                | 2.833340-01                | 2.343192=C2                | 2.395184=01                   |
| 4 <u>000000000</u> 2       | 3.118800-01                   | 6.714184-03          | 4,353303-01                | 2.831252=01                | 1.322178-02                | 2.142642-01                   |
| ?•000000 <del>-</del> 02   | 71110000 01                   |                      |                            |                            |                            |                               |

M = 1.8

| x                      | g                              | f                        | h                             | $_{ m p/p}_{ m R}$    | u/u <sub>R</sub>      | ρ/ P <sub>R</sub>     |
|------------------------|--------------------------------|--------------------------|-------------------------------|-----------------------|-----------------------|-----------------------|
| 1+0000000+00           | 1:115226+00                    | 5.761317-01              | 2:359224+00                   | 1.000000+00           | 1.000000+00           | 1.0000000+00          |
| 9.000000001            | 1:042656+00                    | 5 <b>-579480-</b> 01     | 2.227870+00                   | 9.349299-01           | 9.684383=01           | 9.443232=01           |
| 94600000-01            | 9.758154-01                    | 5:398886~61              | 2:105288+0C                   | 84749932=01           | 9.370927-01           | 8+923648=01           |
| 9•400000-01            | 9.142583-01                    | 5:219716-01              | 1:990920+00                   | 8:197962=C1           | 9.059935=C1           | \$+438877=01          |
| 9.200000=01            | 8.575817-01                    | 5.042150-01              | 1.884239+00                   | 7.689755-01           | 8.751731-01           | 7.986691=01           |
| 9.000000=01            | 8.054116-01                    | 4.866387-01              | 1.784752+00                   | 7.221957-01           | 8 • 44 66 56 = 01     | 7-564999-01           |
| 84800000=01            | 7 <b>.574023=</b> 01           | 4.692630=01              | 1.691997+00                   | 6.791467-01           | 8-145064-01           | 7-171837-01           |
| 8.500000-01            | 7.132347-01                    | 4.521092-01              | 1.605536+00                   | 6.395425-C1           | 7:847324=01           | 6-805353-01           |
| 8.400000~01            | 6.726137-01                    | 4.351988-01              | 1.524960+00                   | 6+031186-01           | 7.553808-01           | 6.463823=01           |
| 3 • 200000-01          | 6.352669-01                    | 4:185534-01              | 1.449884+00                   | 5 4 6 9 6 3 0 5 - 0 1 | 7.264892-01           | 6.145597-01           |
| 8.000000-01            | \$ <b>.</b> 009419 <b>-</b> 01 | 4:021942-01              | 1:379942+00                   | 5.388519-01           | 6.980942=01           | 3 6 8 4 9 1 3 7 = G 1 |
| 7.800000-01            | 5.694053-01                    | 3+961420=01              | 1:314792+60                   | 5.105738-01           | 6 • 702321-G1         | 5.372936 <b>-</b> 01  |
| 7.600000-01            | 5.404410-01                    | 3.704161-01              | 1.254109+00                   | 4#846CZ1-C1           | 6 4 4 2 9 3 6 4 - 0 1 | 5-315770-01           |
| 7.400000-01            | 5.138487-01                    | 3.550345-01              | 1.197586+00                   | 4.607574-01           | 5 • 162384=01         | 5.076188-01           |
| 7 • 200000 = 01        | 4.894429-01                    | 3:400132-01              | 1.144934+00                   | 4.382732-C1           | 5.901658-01           | 4.853012=01           |
| 7.000000-01            | 4.670516-01                    | 3:253660 <b>-</b> 01     | 1.095878+00                   | 4+157953-C1           | 5+647424=01           | 4.645077-01           |
| 6.800000-01            | 4.465152-01                    | 3:111039-01              | 1.050157+00                   | 4.003808-01           | 5.399875=01           | 4.451262-01           |
| 6+600000-01            | 4.276860 <b>⇒</b> 01           | 2•972351-01              | 1.007526+00                   | 3.834971-01           | 5.152152-01           | 4.270583-C1           |
| 6-400000-01            | 4.104273-01                    | 2•837648-01              | 9.677520-01                   | 3+680215-01           | 4.925345-01           | *•161994=61           |
| 5.200000-01            | 3.946124-01                    | 2:706951-01              | 9.306152-01                   | 3.538406-C1           | 4.628493=01           | 2.944582=C1           |
| 6.000000-01            | 3.801244-01                    | 2.580251-01              | 8.959074-01                   | 3 408496-01           | 44478579-01           | >•797467=31           |
| 5.800000-01            | 34668555-01                    | 2-457512-01              | 8.634327~01                   | 3:289516-C1           | 4 • 255537=01         | 0.659817=C1           |
| 5.600000=01            | 3.547063-01                    | 2:338666=01              | 8:330063-01                   | 3:190577-C1           | 4.059255-01           | 5.530850=C1           |
| 5.400000-01            | 3.435854-01                    | 2.223626-01              | 8∍04454 <b>2</b> =01          | 3:080858-01           | 3.859579-01           | △.4∂9826 <b>-</b> 61  |
| 2 + 200000 <b>-</b> 01 | 3.334090-01                    | 2.112282-01              | 7.776125=01                   | 2.989609-01           | 3 4 6 6 6 3 1 7 = 6 1 | 3.296053-01           |
| 5.000000-01            | 3.241005-01                    | 2.004504-01              | 7.523273-Cl                   | 2.906141-C1           | 3-479245-01           | >•188877 <b>=</b> 01  |
| 4 • 800000-01          | 3.155896-01                    | 1.900148-01              | 7.284535-01                   | 2.829826-01           | 3-298113=01           | 2 • 087683=01         |
| 4.600000-31            | 3.078125-01                    | 1.759059-01              | 7:058544-01                   | 2:763090=C1           | 3.122652-01           | 2.991893-01           |
| 4.400000-01            | 3.007107=01                    | 1.701072 <del>-</del> 01 | 6.844008-01                   | 2.696410-01           | 2=952574=01           | 4.900953-01           |
| 4.200000-01            | 2.942313-01                    | 1.606016-01              | 6.639702-01                   | 2:636311=01           | 2.737585~01           | 4.814359-01           |
| 4.000000-01            | 2.883263-01                    | 1.51571B <b>-0</b> 1     | 6.444459=01                   | 2 • 5 2 5 3 6 1 - 0 1 | 2 • 627381=01         | 2+731502=01           |
| 3 • 500000 = 01        | 2.829518-01                    | 1+423999 <b>=01</b>      | 6.257159-01                   | 2.537170-01           | 2+471356=01           | 44652211-01           |
| 3 • 600000-01          | 2.780664-01                    | 1.336685-01              | 6.076717 <b>-</b> 01          | 2:493381-01           | 7+320103=01           | 4+575727=01           |
| 3-400000=01            | 2.736402-01                    | 1.251600-01              | 5.902069-01                   | 2.453674-01           | 2:172420-01           | 24501700-01           |
| 3.200000-01            | 2.696347=C1                    | 1.168572-01              | 5.732161-G1                   | 2•417758-01           | 2+028507=01           | 2.429851=01           |
| 3.000000-01            | 2.660225-01                    | 1.087431-01              | 5.5 <b>65</b> 928 <b>-</b> 01 | 2:385368-C1           | 1.307470-01           | 4.359225-31           |
| 2.600000-01            | 2.627769-01                    | 1.008013-01              | 5.402272 <b>-</b> 01          | 2:356265-01           | 1 • 749623=01         | 4.289952=01           |
| 2.600000=01            | 2+598736=01                    | 9.301365-02              | 5 <b>.240040=01</b>           | 2.330232-01           | 1+614485-01           | 2.231067=01           |
| 2+400000-01            | 2+572908-01                    | 8.537041=32              | J•077985 <b>=</b> 01          | 2:307072-0 <u>1</u>   | 1-401785-01           | 2-152397-01           |
| 2.200000=01            | 24550082-01                    | 7 • 785030-02            | 4.914721 <b>-</b> 01          | 2-296605-01           | 1.351259-01           | 2.038194=01           |
| 2.000000-01            | 2.530074-01                    | 7:044029=02              | 4:748661-01                   | 2:268664-01           | 1.222642=01           | 4.012897=01           |
| 1.200000-01            | 2.512715-01                    | <b>~ 6.312547=32</b>     | 4.577922-01                   | 2.253099-01           | 1.093676=01           | 1,940436=1            |
| 1.600000-01            | 2.497846-01                    | 5.589369-02              | 4.400188-01                   | 2:239766=01           | 9.701-25=02           | 1.965100=01           |
| 1+400000-01            | 2 485320-01                    | 4.871-62-02              | 4.212483-01                   | 2:228534=C1           | 8+456357=02           | 1.765030-01           |
| 1.200000=01            | 2 474993-01                    | 4.159409-02              | 4.Cl0503-01                   | 2.21/?74-01           | 7.219545-02           | 1.700032=01           |
| 1.000000-01            | 2.466727-01                    | 3.446788-02              | 3.789448-01                   | 2:211562=01           | 5.786110=62           | 1.606227-51           |
| £ 0000000=02           | 2.460380-01                    | 2.735626-02              | 3,539726-01                   | 2.2.6171-01           | 4.748264-92           | 1.50037 =01           |
| 6-000000-02            | 2.455802-01                    | 2.008937-02              | 34247240-01                   | 2.002066-01           | 3.486941-12           | 4.376452-01           |
| 4.000000=02            | 2.452819-01                    | 1.227481-02              | 2:386164=31                   | 2.199391-01           | 2:130555=02           | 1.229054=61           |
| 2.000000=02            | 2.451138-01                    | 7:042990 <del>-</del> 04 | 2=423259=01                   | 2.197884-31           | 1:222452-03           | 1 - 027143-01         |
|                        |                                |                          |                               |                       |                       |                       |

<u>k</u> = 2.0

|   |                               |                          | <u> </u>             |                            |                  |                               |
|---|-------------------------------|--------------------------|----------------------|----------------------------|------------------|-------------------------------|
| ×                                       | g                             | f                        | h                    | p/p <sub>R</sub>           | u/u <sub>R</sub> | ρ/ρ <sub>R</sub>              |
|   |                               | 6.250001-01              | 2.666666+00          | 1.0000000+00               | 1.050000+00      | 1.0000000+00                  |
| 1.0000000+0C                            | 1.125300+50                   | 6.055693=01              | 2.482900+00          | 9.248466-01                | 9.689107-01      | 9431CB73=01                   |
| 9.800000-01                             | 1.040452+00                   | 5 862580-01              | 2.314029+33          | 8.565288=01                | 9.380125-01      | 8-677504-01                   |
| 9.600000=01                             | 9-635949-01                   | 5.670850=01              | 2.158827+00          | 7.944182-01                | 9.073357=01      | ⊌•ე95603=01                   |
| 9.400000-01                             | 8.937205-01                   |                          | 2.016173+00          | 7.279457-01                | 8.769127=01      | 74560646年01                   |
| 9.200000-01                             | 8.301889-01                   | 5.480706=01              | 1.885033+00          | 6.865958-01                | 8:467779=01      | 7.068872-01                   |
| 9:000000=01                             | 7.724203-01                   | 5.292363-01              | 1.764451+00          | 6-399014-01                | 9.169674-01      | 6.616725=01                   |
| 8.8000000=01                            | 7.198890-01                   | 5.106047-01              | 1.652585+00          | 54974391-01                | 7.375185-01      | 6.200941-01                   |
| 8:6000000=31                            | 6.721190-CI                   | 4.921992=01              | 1.551606+00          | 3.588252=C1                | 7.584697-01      | 5.318520⇔01                   |
| 8:400000-01                             | 5.286784-01                   | 4.740437-01              | 14437788+00          | 5.237115-01                | 7.298596-Cl      | 5.466703 <b>-</b> 01          |
| 8 • 200000 = 01                         | 5.891754-01                   | 4.561624-01              | 1.371454+00          | 4.917817-01                | 7.017264=01      | 5.142949 <b>-</b> 01          |
| 8.000000-01                             | 5.532544-01                   | 4.385791-01              | 1.291979+00          | 4.627487=01                | 6.741072-01      | 4.B44919~Ul                   |
| 7.800000=01                             | 5.205923-01                   | 4.213171-01              | 1.218788+00          | 4.363516=01                | 6.470374=01      | 4 <b>•</b> 570454 <b>≃</b> 01 |
| 7.600000-01                             | 4.908955-01                   | 4.043985-01              | 1.151351+CC          | 4.123527-01                | 6.235496-01      | 4.317565-01                   |
| 7.400000-01                             | 4.638568-01                   | 3.878436-01              | 1.039175+00          | 3.905362-01                | 5.946728-01      | 4.084414=01                   |
| 7.200000-01                             | 4.393532=Cl                   | 3.716706-01              | ~~                   | 3.7C7U51=01                | 54694319-01      | 3.069304=01                   |
| 7.000000-01                             | 4.17C433-01                   | 3,558950-01              | 1.031815+00          | 3.526604-01                | 5.448472-01      | 3.670654-01                   |
| 6.500000-01                             | 3.967655=01                   | 3.405296-01              | 9.788441-01          | 3.362987=01                | 5.209335=C1      | 5.487047=01                   |
| 6.600000=01                             | 3.783361-01                   | 3-255835-01              | 9.298794-01          | 3.214115-01                | 4.977002-01      | 3.317111-01                   |
| 6.400000-01                             | 3.615880-01                   | 3-110627-01              | 9.645632=01          | 3.078834-01                | 4.751511-01      | 3.159620-01                   |
| 5.200000-01                             | 3•463689-01                   | 2.969695-01              | 3.425655-01          | 24955914=01                | 4.532845-01      | 3.013429-01                   |
| 5.000000=01                             | 3.325403-01                   | 2.833029-01              | 2.535814-01          | 2.844235=C1                | 4.320931-01      | 2.877485-01                   |
| 5.800000-01                             | 3.199764 <b>-</b> 01          | 2.700553-01              | 7.673295-01          | 2.742782-01                | 4.115652=01      | 2.750813-01                   |
| 5.600000=01                             | 3 <b>•</b> 085 <b>630</b> ≃01 | 2.572280-01              | 7,395503-01          | 2-650635-01                | 3.916841-01      | 2.632515=01                   |
| 5-400000-01                             | 2.981964-01                   | 2.448025-01              | 7.020043-01          | 2.566959=01                | 3.724297=01      | 2.521764-01                   |
| 5.200000-01                             | 2.867828-01                   | 2 • 327686-01            | 5.724706-01          |                            | 3.537784=01      | 2.417795=01                   |
| 5.000000-01                             | 2.502374-01                   | 2.211115~01              | 6,447435-01          | 2.490999=01                | 3.357039*01      | 2.319902=01                   |
| 4.800000-01                             | 2.724833-01                   | 2.098150-01              | 6.186407-01          | 2.422074-01                | 3.181781-01      | 2.227433-01                   |
| 4.600000-01                             | 2.654515-01                   | 1.988614-01              | 5.939824-C1          | 2:359569=01<br>2:302929=01 | 3.011711-01      | 2.139783-01                   |
| 4.400000-01                             | 2.590795=01                   | 14882320-01              | 5.706091-01          |                            | 2.846522=01      | 2.056389-01                   |
| 4.200000=01                             | 2,533111-01                   | 1.779077-01              | 5,483707-01          | 2+251654=31<br>2+205294∺01 | 2.685900-01      | 1.976725=C1                   |
| 4,000000-01                             | 2,480956-01                   | 1:57868G <b>-</b> 01     | 5.271268-01          |                            | 2.529532-01      | 1.900295=01                   |
| 3.800000-01                             | 2:433875-01                   | 1.500950-01              | 5.C67455-01          | 2.163444-01                | 2.377102-01      | 1.826630=01                   |
| 3.6000C0-01                             | 2:391456=01                   | 1.485689-01              | 4.871015-01          | 2.125738-01                | 2.228304=01      | 1.755281-01                   |
| 3.400000-01                             | 2.353329-01                   | 14392690-01              | 4.680750-01          | 2.091848=01                | 2.082833-01      | 14685811-01                   |
| 3.200000-01                             | 2.319160-01                   | 1.301771-01              | 4.495498-01          | 2:061475=01                | 1.940395=01      | 1.617793=01                   |
| 3.000000-01                             | 24288647-01                   | 1.212747-01              | 4.314116-01          | 2.034352=01                | 1.800705-01      | 1.550796-01                   |
| 2.800000-01                             | 2.261516-01                   | 1:125441-01              | 4.135463-01          | 2.010236=01                | 1.663489=C1      | 1.484389=01                   |
| 2.600000-01                             | 2.237519-01                   | 1.039681-01              | 2,958371-01          | 1.988906-01                | 1.528483-C1      | 1.418108-01                   |
| 2.400000-01                             | 2.216430-01                   | 9.553019=02              | 3.781622-01          | 1.970160-01                | 1.395436=01      | 1.351466-01                   |
| 2.200000-01                             | 2.198039-01                   | 8.721478-02              | 3,603909-01          | 1.953812=01                | 1+264111=01      | 1.283921-01                   |
| 2.000000-01                             | 2.182155-01                   | 7.900697=02              | 3.423790=01          | 1,939693-01                |                  | 1.214855-01                   |
| 1.800000-01                             | 2.168597-01                   | 7:089279-02              | 5.239614-01          | 1.927642-01                | 1 - 134284-01    | 1.143535-01                   |
| 1.600000-01                             | 2.157198-01                   | 5.285931 <del>-</del> 02 | 3.049428 <b>-</b> 01 | 1.917509~01                | 1.005749-01      | 1.069055=01                   |
| 1.400000-01                             | 2.147795-01                   | 5:489467-02              | 2.850814-01          | 1.909151-01                | 8.783177-02      | 9.902347=02                   |
| 1.200000-01                             | 2.140232-01                   | 4=698965=02              | 2.640627-Cl          | 1.902429-01                | 74518343-02      | 9:054446=C2                   |
| 140000000001                            | 2.134353-01                   | 3.913702-02              | 2.414520-01          | 1.897202-01                | 6.261923-02      | 9:034446-02<br>8:122472-02    |
| 8 000000-02                             | 2.129999-01                   | 3 • 133747 - 02          | 2.165993-01          | 1.893332-01                | 5+013995-02      |                               |
| 5.000000-02                             | 2.127004-01                   | 2.361292-02              | 1.884172=01          | 1.890670-01                | 3.778067-02      | 7-065641=02                   |
| 4.000000-02                             | 2.125187-01                   | 1.608099-02              | 1.547057=01          | 1.889055-01                | 2 = 572957~02    | 5.801460-02                   |
| 2.000000-02                             | 2.124337-01                   | 9.732621-03              | 1.081499=01          | 1.888300-01                | 1.557219-02      | 4.055619=02                   |
| 2 B D D D D D D D D D D D D D D D D D D |                               |                          |                      |                            |                  |                               |

**E** - 2.4

| x           | g                    | f                    | h                    | p/p <sub>R</sub> | u∕ս <sub>ը</sub> | $ ho/ ho_{ m R}$     |
|-------------|----------------------|----------------------|----------------------|------------------|------------------|----------------------|
| 1.000000+00 | 1.137731+00          | 6.686574=01          | 3+211896+00          | 1.000000+00      | 1+0000003+00     | 1.000000+00          |
| 9.800000=01 | 1.031679+30          | 6.668322-01          | 2.900582+00          | 9.067859-01      | 9.683077-01      | 9.030749-01          |
| 9.600000-01 | 9:380847-01          | 6.451688-01          | 2 625055+00          | 8 245221-01      | 9.368502-01      | 8,172914-01          |
| 9.400000=01 | 8.553851-01          | 6:236942*01          | 2.380857+00          | 7.518339-01      | 9.056669-01      | 7-412624=01          |
| 9.200000-01 | 7.822266-01          | 6.024369=01          | 2.164122+00          | 6.875318=01      | 8.747992-01      | 6.737833=01          |
| 9+000000-01 | 7.174360-01          | 5.814270-01          | 1,971483+00          | 6.305847-01      | 8.442907=01      | 6.138066=01          |
| 8 800000-01 | <b>6</b> •599953≃01  | 5.606953-01          | 1.300012+00          | 5.800976-01      | 8 • 141861-01    | 5.604204-01          |
| 8.600000=01 | 6.090191=01          | 5•402731 <b>=</b> 01 | 1.647154+00          | 5.352925-01      | 7.84531C=01      | 2.126293-01          |
| 8 400000-01 | 5.637368-01          | 5.201913-01          | 1.510676+00          | 4.954920-01      | 7.553703-01      | 4.733386=C1          |
| 8 200000-01 | 5.234761-01          | 5.004803=01          | 1.388634+00          | 4 601052-01      | 7.267479=01      | 4.323403-01          |
| 8.000000-01 | 4.876496-01          | 4.911686-01          | 1.279310+00          | 4.286158-01      | 6.987054-01      | 3.983037=01          |
| 7.800000-01 | 4.557434-01          | 4.622325-01          | 1:181209+00          | 4.005721-01      | 6.712809-01      | 3.677605-01          |
| 7:600000=01 | 4.273068-01          | 4.438452-01          | 1.093011+00          | 3.755780-01      | 6.445080-01      | 3,403010=01          |
| 7.400000~01 | 4.019443-01          | 4.258762-01          | 1.013560+00          | 3.532858-01      | 6 184152-01      | 3.155643=01          |
| 7.200000-01 | 3.793080-01          | 4.083909-01          | 9.418330-01          | 3.333898-01      | 5.930248-01      | 2.932327=01          |
| 7.000000-01 | 3.590917-01          | 3.914000-01          | 8.769313-01          | 3.156208-01      | 5.683523-01      | 2.730261-01          |
| 6.B00000-01 | 3.410255-01          | 3.749396-01          | 8.180608-01          | 2.997416-01      | 5-444066-01      | 2.546972=01          |
| 6.600000-01 | 3.248714-01          | 3.589209≃01          | 7.645208-01          | 2.855432=01      | 8.211893-01      | 2.380279=01          |
| 6.400000-01 | 3.104195-01          | 3.434304-01          | 7:156919-01          | 2.728408-01      | 4.986957-01      | 2.228254=01          |
| 6.200000-01 | 2.974843-01          | 3:284306-01          | 6.710272-01          | 2:614714-01      | 4.769143-01      | 2.089194-01          |
| 6.000000-01 | 2.859019-01          | 3.139096-01          | 6.300431-01          | 2.512912-01      | 4.558284-01      | 1.961593=01          |
| 5.800000-01 | 2.755278-01          | 2.998525-01          | 5.923119-01          | 2:421730-01      | 4:354161=01      | 1.844119-01          |
| 5.600000-01 | 2.662342-01          | 2.862414 <b>-</b> C1 | 5.574552-01          | 2.340044-01      | 4.156513-01      | 1-735596-01          |
| 5.400000-01 | 2.579081 <b>-</b> 01 | 2.730558=01          | 5,291384-01          | 2:266863-01      | 3.965046-01      | 1.634980=01          |
| 5.200000-01 | 2.504497-01          | 2.602740-01          | 4,950649-01          | 2.201308-01      | 3.779441-01      | 1.541348-01          |
| 5.000000=01 | 2.437708-01          | 2•478725-01          | 4.669717-01          | 2.142504-01      | 3 - 599358-01    | 1.453832-01          |
| 4.800000-01 | 2.377933-01          | 2.358273-01          | 4.406236-01          | 2:090065-01      | 3-424450-01      | 1:371855=01          |
| 4.600000-01 | 2.324479-01          | 2.241140-01          | 4.158193=01          | 2:043082=01      | 3.254362-01      | 1.294623-01          |
| 4+400000=01 | 2.276734-01          | 2.127082=01          | 3.923681-01          | 2.001117-01      | 3.088737-01      | 1.221609=01          |
| 4.200000-01 | 2.234153-01          | 2.015854-01          | 3.701075-01          | 1.363691-01      | 2.927224=01      | 1.152302-01          |
| 4.000000-01 | 2.196252-01          | 1.907222-01          | 3.488902-01          | 1.930378-01      | 2.769478=01      | 1.086244=01          |
| 3.800000-01 | 2.162597-01          | 1.800952-01          | 3 <b>.</b> 285842-01 | 1.900797-01      | 2 • 615 164 = 01 | 1.023023-01          |
| 3.600000-01 | 2.132802-01          | 1.696824~01          | 3.390709-01          | 1.874609-01      | 2•463959=01      | 9 • 522695=02        |
| 3.400000-01 | 2.106519-01          | 1.594622-01          | 2.902433=01          | 1.851508-01      | 2.315552=01      | 9.036510-02          |
| 3.200000-01 | 2.083436-01          | 1•494143-01          | 2.720043-01          | 1.831220-01      | 2 • 169647-01    | 8•468654=02          |
| 3.000000-01 | 2.063269-01          | 1.395194-01          | 2:542660-01          | 1.313494-01      | 2.025962-01      | 7.916384-02          |
| 2.800000-01 | 2.045760=01          | 1.297590-01          | 2:369479=01          | 1.798104-01      | 1.884231-01      | 7.377197-02          |
| 2.600000-01 | 2.030672-01          | 1.201158-01          | 2.199761-01          | 1.784843-01      | 1.744202-01      | 6.848793-02          |
| 2.400000-01 | 2.017787-01          | 1+105734-01          | 2:032825-01          | 1:773518-01      | 1•605638=Cl      | 6.329051-02          |
| 2.200000-01 | 2.006902-01          | 1.011166-01          | 1.068039-C:          | 1.763951-01      | 1-468314-01      | 5.816000=02          |
| 2.000000-01 | 1.997828-01          | 9•173044-02          | 1:704808-01          | 1.755975-01      | 1:332019-01      | 5•307792 <b>−</b> 02 |
| 1.800000-01 | 1.990385-01          | 8:240097-02          | 1.542571-01          | 1.749433-01      | 1. 96545-01      | 4aB02681-02          |
| 1.600000-01 | 1.984401-01          | 74311404-02          | 1.380791-01          | 1.744174-01      | 1:051690-01      | 4.298990-02          |
| 1.400000-01 | 1.979713-01          | 6.385460-02          | 1.218944-01          | 1:740053-01      | 9 • 272333=02    | 3.795093-02          |
| 1.200000-01 | 1.976159-01          | 5.460442 <b>-</b> 02 | 1.C56516=01          | 1.736929-01      | 7:929113=02      | 3.289385-02          |
| 1.000000-01 | 1.973582-01          | 4.533639-02          | 8.529976-02          | 1:734664-01      | 6.583301-02      | 2.780282-02          |
| 8.000000-02 | 1.971827-01          | 3•599787-02          | 7.279214=02          | 1.733122-01      | 5.227254-C2      | 2.266330-02          |
| 6.000000-02 | 1.970738-01          | 2 • 544 967 = 32     | 5.610747=02          | 1.732165-01      | 3.840759=C2      | 1.746865-02          |
| 4.000000-02 | 1.970156-01          | 1.614805-02          | 3.938402-02          | 1.731653-01      | 2.344860-02      | 1.226192-02          |
| 2.000000-02 | 1.969904=01          | 8 • 106870=04        | 2.403220-02          | 1.731432-01      | 1.177199-03      | 7•482249-03          |

M = 3.0

|                      |                     |   | m - 0.0              |                            |                      |                          |
|----------------------|---------------------|---|----------------------|----------------------------|----------------------|--------------------------|
| *                    | g                   | f   | h                    | p/p <sub>R</sub>           | u/u <sub>R</sub>     | p∕p <sub>R</sub>         |
|                      |                     | 7.407/07-01                                 | 3.857142+00          | 1.0000000+00               | 1.000000+00          | 1.0000000+00             |
| 1.000000+00          | 1.148148+00         | 7.407407=01<br>7.157386=01                  | 3.324603+00          | 84849119-01                | 9.662475=01          | 0.619341=01              |
| 9.800000-01          | 1.016010+00         | 6.910580-01                                 | 2.88131Z+0C          | 7.878625-01                | 9.329284-01          | 7.470070-01              |
| 9.600000-01          | 9.045829-01         | 6.667460=01                                 | 2 510371+00          | 7.056831-01                | 9.001071-01          | 6.508371-01              |
| 9.400000-01          | 8 102287-01         | 6.4285C8=01                                 | 2.198382+00          | 6.358238-01                | 8•57848 <b>7=</b> 01 | 5.699539=01              |
| 9.200000-01          | 7.300199-01         | 6.194197-01                                 | 1.934662+00          | 5.762217-01                | 8.362166-01          | 5:015790-01              |
| 9.000000=01          | 6.615879-01         |   | 1.710648+00          | 5.251984-01                | 8.C52713-31          | 4.435Cl3=01              |
| 8.500000-01          | 6.030055-01         | 5•964973 <b>-01</b><br>5•741247 <b>-</b> 01 | 1.519438+00          | 4.813812-01                | 7•750694=01          | 3.939284-01              |
| 8:600000 <b>-</b> 01 | 5.526969-01         |   | 1.355443+CO          | 4.436416-01                | 7:456561-01          | 3.514112 <del>-</del> 01 |
| 8-400000-01          | 5.093663=01         | 5.323378=31<br>5.311663=C1                  | 1.214113+00          | 4.110477=C1                | 7-170745-01          | 3•147701 <del>-</del> 01 |
| B • 200000=01        | 4.719436-C1         | 5.106323=01                                 | 1 091729+00          | 3.828258=31                | 6+893536=31          | 2.830409-01              |
| 8.0000000            | 4.395407-01         |   | 5.852350-01          | 3.583312-01                | 6.625129=01          | 2:554321=01              |
| 7.90000C=01          | 4.114173-01         | 4.907503=01                                 | 3.921242-01          | 3.570243-01                | 6.365608-01          | 2:312915-01              |
| 7:600000=01          | 3-869538-01         | 4.715265=01                                 | 6.103077 <b>-</b> 01 | 3.184521=01                | 6.114952-01          | 2.100798 <b>-</b> 01     |
| 7:400000=01          | 3.656301-01         | 4.529594-01                                 | 743E3628=31          | 3-022326-01                | 5.873037=01          | 1.913496-01              |
| 7.200000-01          | 3.470C78-01         | 4.350398-01                                 | 5.739541=01          | 2.850434=01                | 5.639650=C1          | 1.747289=C1              |
| 7:000000-01          | 3.307165-01         | 4.177518-01                                 | ú.167839=01          | 2.755108-01                | 5-414501-01          | 1.599070-01              |
| 6.800000=01          | 3.164421-01         | 4.010741-01                                 |                      | 2.547027-01                | 5.197235-01          | 1.466243=01              |
| 6.600000-01          | 3.039179-01         | 3.849934-01                                 | 5.655507-01          | 2.551212=C1                | 4.987451-01          | 1.346631-01              |
| 6.40000C=01          | 2:929169-01         | 3.694408-01                                 | 5-194146-01          | 2.466972=01                | 4.784711-01          | 1.238405-01              |
| 6.200000-01          | 2.832449-01         | 3.544230-01                                 | 44776703-01          | 2.392863=01                | 44588555-01          | 1.140024=61              |
| 6.000000-01          | 2.747361-01         | 3.398930-01                                 | 4.397235-01          | 2.327643=01                | 4.298513-01          | 1.050189=01              |
| 5.8000000-01         | 2.672479~01         | 3.258158-01                                 | 4.CBS730=01          | 2.270246-01                | 4.214113=01          | 9.678015-02              |
| 5.600000=01          | 2•606578=01         | 3.121565-01                                 | 5.732948+01          | 2.219748-01                | 4.034837-01          | 8.419301=62              |
| 5.400000-01          | 2.548599=01         | 2.988805-01                                 | 3,440302-01          | 2.175352=01                | 3.860381-01          | 3.217859-C2              |
| 5.200000-01          | 2.497626=01         | 2.859541-01                                 | 3.169745-01          |                            | 3.590158=C1          | 7.566985=02              |
| 5.000000-01          | 2.452862=01         | 2.733450*01                                 | 2.918594=01          | 2.135364-01                | 3.523798-01          | 6.960985-02              |
| 4.800000=01          | 2.413613-01         | 2.510221-01                                 | 2.684951-01          | 2.102179-01                | 3.350907=01          | 6.395017-C2              |
| 4.600000=01          | 2 <b>.379270-01</b> | 2 489560-01                                 | 2.466649-01          | 2.072267-01                | 3.201110-01          | 5.864968-CZ              |
| 4+400000=01          | 2.349298-01         | 2.371193 <b>-</b> C1                        | 2.262202-01          | 2.045163-01                | 3.544051-01          | 54367348=02              |
| 4 200000-01          | 2.323224-01         | 2 • 254860-01                               | 2.070252-01          | 2.029453=01                | 2.889435=01          | 4-899202-02              |
| 4.000000-01          | 2.300629-01         | 2 • 140322 = 01                             | 1.889692-01          | 2.003779=01                | 2.736933=01          | 4.458041-02              |
| 3.500000-01          | 2.281137-01         | 2.027358=01                                 | 1.719530-01          | 1.985797=01                | 2.586279=01          | 4.041776-02              |
| 3.600000=01          | 2:264412=01         | 1.915762-01                                 | 1.558971-01          | 1.972230=31                | 2.437222-01          | 3.649673=02              |
| 3.400000-01          | 2.250153=01         | 1.805350-01                                 | 1.407345-01          | 1.959811-01                | 24289533-01          | 3.277307-C2              |
| 3.200000-01          | 2.238085-01         | 1.695950-01                                 | 1.264104-01          | 1.949300-01                | 2.143003=C1          | 2.926527-02              |
| 3.0000000=01         | 2.227959-01         | 1.587413=01                                 | 1.126803-01          | 1=940480=01                | 1.997446=01          | 2.595432=02              |
| 2,800000-01          | 2.219547-01         | 1.479590-01                                 | 1.001095-01          | 14933154-01<br>14927139-01 | 1.852695-01          | 2.283336-02              |
| 2.600000-01          | 2.212641-01         | 1.372366-01                                 | C.807153-02          |                            | 1.703600=01          | 1.989761=02              |
| 2.400000=01          | 2.207049=01         | 1.265630-01                                 | 7.674791-02          | 1.922269=01                | 1.555030-01          | 1.714411-C2              |
| 2.200000-01          | 2.202596-01         | 1.159282=01                                 | 6.612727=02          | 1.918390-01                | 1.421869-01          | 1.457157=C2              |
| 2.000000-01          | 2:199117-01         | 1:053237=01                                 | 5.620501-02          | 1.915360=01                | 1=279014=01          | 1.218079-02              |
| 1.800000=01          | 2.196464*01         | 9:474181-02                                 | 4.698303-02          | 1.913050-01                | 1.136373-01          | 9.973620=03              |
| 1.600000-01          | 2.194500-01         | 8 • 417579=32                               | 3.846967-02          | 1.911339-01                | 9.93B578=C2          | 7.954055-03              |
| 1.400000-01          | 2.193097-01         | 7:361909-02                                 | 3.067997-02          | 1=910117=01                | 8.513750=02          | 6.127924-03              |
| 1.200000-01          | 2.192143-01         | 6.306481-02                                 | 2.363628-02          | 1.909286-01<br>1.908754-01 | 7.088306-02          | 4.503255-03              |
| 1.000000-01          | 2.191533-01         | 5.250375-02                                 | 1.736970=02          |                            | 5.659066-02          | 3.091093=03              |
| B+000000=02          | 2.191176-01         | 4.191901-02                                 | 1.192279-02          | 1.909444=01                | 4.220994-02          | 1.507001=03              |
| 5.000000-02          | 2.190993-01         | 3.126662-02                                 | 7.355576-03          | 1.908284-01                | 2.750599-02          | 9.752556-04              |
| 4.0000000000         | 2:190917=01         | 2:037480-02                                 | 3.761700-03          | 1,900218=01                | 1.064957-02          | 3 457636-04              |
| 2.000000-02          | 2.190896-01         | 7:888567-03                                 | 1.333659-03          | 1.908200-01                | 78004551 05          |                          |
|                      |                     |   |                      |                            |                      |                          |

M = 3.5

| x                           | g  | i                                   | h  | p/p <sub>R</sub>           | u/u <sub>R</sub>                    | ρ/ <sub>PR</sub>              |
|-----------------------------|--|-------------------------------------|--|----------------------------|-------------------------------------|-------------------------------|
| 1.000000+00                 | 1.153061+00                                  | 7+653062=01                         | 4.260870+00  | 1.000000+00                | 1.000000+00                         | _                             |
| 9.800000-01                 | 1.004489+00                                  | 74382086-01                         | 3.544828+00  | 8.711500-31                | 9.645925=01                         | 1.000000+00                   |
| 9.600000-01                 | 8.834371-01                                  | 7.115231-01                         | 24976353+00  | 7.661667-01                | 9.298541-01                         | 0.319494=01<br>6.985217=01    |
| 9.400000-01                 | 7.840785-01                                  | 6.856159-01                         | 2.520590+00  | 64799973-01                | 84958713-01                         | 9-915668-01                   |
| 9 • 200000-01               | 7.019780-C1                                  | 6.602491-01                         | 2.151785+00  | 6.087951-01                | 8 627255=C1                         | 5+05C1C6=01                   |
| 9.0000000                   | 5:337237=Cl                                  | 6.355788-01                         | 1.850696+30  | 5.496011-01                | 8.304876-01                         | 4.343468=01                   |
| 8 • 800000-01               | 5.766645=01                                  | 6.116519-01                         | 1+602796+00  | 5.001162-01                | 7.992251-01                         | 3-761653=01                   |
| 8:600000-01                 | 5.287223-01                                  | 5:385050-01                         | 1.397012+00  | 4.585380-01                | 7.589798=C1                         | 3.278702=01                   |
| 3:400000-01                 | 4.862533=01                                  | 5•661626 <del>-</del> 01            | 1.224830+00  | 4.234411=01                | 7.397858-01                         | 2.874602-01                   |
| 8 200000-01                 | 4.539482-01                                  | 5•446369-01                         | 1.079649+00  | 3.936896-01                | 7:116589=01                         | 4.533869=01                   |
| 8.000000-01                 | 4.247547-01                                  | 5.239277-01                         | 9.563100-01  | 34633714-01                | 6.845989-01                         | 4.244401=31                   |
| 7 800000-01                 | 3.998235-01                                  | 5.04C233-G1                         | 84507594-01  | 3:457496-01                | 6:585904-01                         | 14996678=01                   |
| 7.500000-01                 | 3.784638-01                                  | 4-849018-01                         | 7.597832-01  | 3:282253-01                | 6:336049-01                         | 783165 <b>-</b> 01            |
| 7.400000-01                 | 3,601112-01                                  | 4.665327=31                         | 3 <b>.</b> 808283 <b>-</b> 01                        | 3:123388=01                | 6.096027-01                         | 1.597862-01                   |
| 7.200000-01                 | 3.443020-01                                  | 4.488769-01                         | 6.118472-01  | 2.985982-01                | 9•365351 <b>-</b> 01                | 1.435958=01                   |
| 7.000000-01                 | 3.306536-01                                  | 4.317986-01                         | 5.511932=01  | 2.867615=01                | 5•643475≃Cl                         | 1.293617=01                   |
| 6.200000-01                 | 3.188488-01                                  | 4.155465-01                         | 4.975348=31  | 2.765237-C1                | 5•429B37 <b>=</b> 31                | 1-167684-01                   |
| 6+600000=01                 | 3.086233-01                                  | 3.997757-01                         | 4.497903-01  | 2•6765 <b>56-</b> 01       | 5•223735 <b>-</b> C1                | 1.055630-C1                   |
| 6.400000=01                 | 2.997562-01                                  | 3.845390-01                         | 4.070773-C1  | 2.599656-G1                | 5.024642-01                         | 9.553846-02                   |
| 6.20000C=01                 | 2:920619-01                                  | 3.697896=01                         | 3.686717-01  | 2.532927=0:                | 4+831917=C1                         | 8.652499-02                   |
| 5.000000-01                 | 2.853836-01                                  | 3.554821-01                         | 3.339796-01  | 2.475008-01                | 4.644956-01                         | 7+838275=02                   |
| 5.800000=01<br>5.600000=01  | 2.795884-01                                  | 3 415731-01                         | 3.025091-01  | 2.424749-01                | 4+463271=01                         | 7.099703-02                   |
| 5.400000-01                 | 2.745628~01                                  | 3 280212-01                         | 2.736532-01  | 24381164-01                | 4+286143-C1                         | 6.427166-02                   |
|                             | 2.702099-01                                  | 3.147878-01                         | 2.476732-01  | 2.343414-01                | 4.113227=01                         | 5•812737 <b>=</b> 62          |
| 5.200000-01<br>5.0000000-01 | 2•664461 <b>-</b> 01<br>2•631989 <b>-</b> 01 | 3.018369-01                         | 2.236866-01  | 2.310771-01                | 3+944003-01                         | 9.249787-CZ                   |
| 4.80000C=01                 | 2.604055~01                                  | 2 • 8 9 1 3 5 2 = 0 1               | 2.016573-01  | 2 • 28 26 1 C - O1         | 3.776034-01                         | 4•732772 <b>=</b> 62          |
| 4.600000=01                 | 2.580167=01                                  | 2:756521 <b>=</b> 01<br>2:643596=01 | 1.813870=01  | 2:258384=01                | 3-614921-01                         | 4.257042-02                   |
| 4.40D000~01                 | 24559662-01                                  | 2.522324-01                         | 1.627093-01  | 2.227615-01                | 3 4 4 5 4 2 9 9 = 01                | 3 • 818686-02                 |
| 4.200000-01                 | 2.542292=31                                  | 2.402473-01                         | 1 <sub>4</sub> 454836-01<br>1 <sub>8</sub> 295914-01 | 2+219884-01                | 3 • 295836-01                       | 3-414411=02                   |
| 4.000000°G1                 | 2.527619=01                                  | 2.283839-01                         | 1 149321-01  | 2.204820-01<br>2.192095-01 | 3•139232 <b>-</b> 01<br>2•984216-01 | 3.041430=02                   |
| 3.800000-01                 | 2.515305-01                                  | 2.166236-01                         | 1.014203=01  | 2.192095-01                | 2•830548=C1                         | 2+697385=02                   |
| 3.600000=01                 | 2.365049=01                                  | 2.049499-01                         | 6-898297-02  | 2.172521-01                | 2.578011-01                         | 4:380271=02<br>2:088376=02    |
| 3.400000=01                 | 2.496580=Ci                                  | 1.933482=C1                         | 7.755765=02  | 2.165176-01                | 2.526417-01                         | 1+320230=02                   |
| 3.200000-01                 | 2.469657=01                                  | 1.018058-01                         | 5.709024-02  | 2.157172-01                | 2 • 375596=01                       | 1.574567-02                   |
| 5.000000-01                 | 2.484061-01                                  | 14703115-01                         | 5.753364=02  | 2.154319-01                | 2.225403-C1                         | 1.350272-02                   |
| 2.800000-01                 | 2.479598-01                                  | 1.589553-01                         | 44584533=02  | 24150448-01                | 2.075709-01                         | 1.146392=02                   |
| 2 • 600000-01               | 2.476092-01                                  | 1.474287-01                         | 4.099118=02  | 2.147407-01                | 1.925402-01                         | 9.620377-05                   |
| 2.400000=01                 | 2.473367-01                                  | 1.360244-01                         | 3,393440-02  | 2.145061-01                | 1.777386-0                          | 7.964194=03                   |
| 2.200000-01                 | 2:471342=01                                  | 1+246357=01                         | 2,764463-02  | 2:143288-01                | 1+628573-01                         | 6.488024=03                   |
| 2.0C0000-01                 | 2,469835=11                                  | 1+132566=01                         | 2,209207=02  | 2.141981-01                | 1.479587=C1                         | 5.184973-00                   |
| 1.800000=01                 | 2,465750-01                                  | 1+018813-01                         | 1.724776=32  | 2 14 10 46 - 01            | 1+331249=01                         | 4.047944-03                   |
| 1.500000-01                 | 2:458C14-31                                  | 9.050325→02                         | 1.308282=32  | 2 • 140402=01              | 1.182576-01                         | 3 aG70456=03                  |
| 1.400009=01                 | 2:467525 <b>-</b> C1                         | 7:911421=02                         | 9.567750-03  | 2:139977-01                | 1.033759-01                         | 4. <b>2</b> 45492 <b>-</b> 03 |
| 1.200000-01                 | 2:467221-01                                  | 6.770098-02                         | 6.671725-03  | 2:139713-01                | 8.846262-02                         | 1.565013-03                   |
| 1.000000-01                 | 2•467046-01                                  | 5.523846 <b>~</b> 02                | 4.361807-03  | 2+139562-01                | 7:348491=02                         | 1.023662#02                   |
| 8.0000000-02                | 2:466956=01                                  | 4•466860=02                         | 2.602039=03  | 2-137484-01                | 5.836697-02                         | 6.106826-04                   |
| 6+000000-02                 | 2.466916-01                                  | 3 • 252420-32                       | 1.352376=03  | Z:139449-C1                | 4.209020=02                         | 3.173942-04                   |
| 4.000000=02                 | 2-466932-21                                  | 2.003189-02                         | 5.673107-04  | 2.139437-01                | 2.617530-02                         | 1:331440=04                   |
| 2.000000=02                 | 2.466899=01                                  | 9#J07860=04                         | 1.383817-04  | 2:139434=C1                | 1.242360-03                         | *#421203 <b>-</b> 05          |
|                             |  |                                     |  |                            |                                     |                               |

**M** = 4.0

|                            |  |                            | <b>2</b> - 1.0 |                  |                  |                          |
|----------------------------|--|----------------------------|----------------|------------------|------------------|--------------------------|
| x                          | g  | f                          | h              | p/p <sub>R</sub> | u/u <sub>R</sub> | ρ∕-p <sub>R</sub>        |
|                            | 1.156250+00                                  | 7.812500=01                | 4.571429+00    | 1.000000+00      | 1.000000+00      | 1.000000+00.             |
| 1.000000+00                | 9.951993=01                                  | 7.525464=01                | 3.688784+00    | 8-607129-01      | 9.622594-01      | 8.069214-01              |
| 9.800000-01                |  | 7.245676-01                | 3-015999+00    | 7.505235-01      | 9, 274465-01     | 6.597497-01              |
| 9.600000-01                | 8.677928-01                                  | 6.973938-01                | 2-495530+00    | 6.624148-01      | 8-926640-01      | 5.458971-01              |
| 9.400000-01                | 7.659172-01                                  | 6.710942-01                | 2-087333+00    | 5,912895-01      | 8.590005-01      | 4.566042-01              |
| 9.200000-01                | 6-536784-01                                  | 6.457231=01                | 1.763068+00    | 5.333859-01      | 8.265255=01      | 3 <del>-85</del> 6710-01 |
| 9.000000-01                | 6.167275-01                                  | 6.213178-01                | 1.502357+00    | 4.855887-01      | 7.952867-01      | 3.286407-01              |
| 84800000-01                | 5.618038-01                                  | 54978973=01                | 1.290349+00    | 4-456628-01      | 7.653085-01      | 24822638=01              |
| 8.600000-01                | 5.164539=01                                  | 5.754624=01                | 1.116075+00    | 4.140702-01      | 7.355919=01      | 2.441414-01              |
| 8.400000-01                | 4.787686=01                                  | 5.539972=01                | 9.713430=01    | 2.858408-01      | 7.091164-01      | 2.124513-01              |
| 8.200000-01                | 4.472846=01                                  | 5.334712-01                | 6.499698=01    | 3.639805-01      | 6.828431=01      | 1.859309-01              |
| 8.000000-01                | 4,208524=01                                  |                            | 7.472426=01    | 3.447045-01      | 6.577176-01      | 1.634593-01              |
| 7.800000-01                | 3,985646-01                                  | 5:138419=G1                | 6.595374=01    | 3.283884-01      | 6.336742-01      | 1.442738-01              |
| 7.500000-01                | 3.796990-01                                  | 4.950580-01                | J_840443=01    | 3.145317-01      | 6.106398-01      | 1.277597=01              |
| 7.400000-01                | 3.636773-01                                  | 4+770623=C1<br>4+597942=01 | 5.185677-01    | 3.027307-01      | 5.885366-01      | 1-134367-01              |
| 7.200000=01                | 3.500324-01                                  |                            | 4.613789=01    | 2.926575=01      | 5.672854-01      | 1.009265=01              |
| 7.000000-01                | 3.383853-01                                  | 4.431917-01                | 4.111072-01    | 2.840440-01      | 5.468076-01      | 54992970-02              |
| 6.800000-01                | 3.284259-01                                  | 4.271934-01                | 3.666588=01    | 2.765697=01      | 5.270268-01      | 8.020660=02              |
| 6.600000-01                | 3.198993-01                                  | 4.117397-01                | 3.271545=01    | 2.703520-01      | 5.0787C1=01      | 7.156503-02              |
| 6.400000-01                | 3.125945-01                                  | 3.967735-01                | 2.918835-01    | 2.649388-01      | 4.892689-01      | 6.384952-02              |
| 6.200000-01                | 3.063355-01                                  | 3.822414-01<br>3.680934-01 | 2.602678-01    | 2.603028-01      | 4.711595-01      | 5.693358-02              |
| 6.000000-01                | 3.009751-01                                  |                            | 2.318341-01    | 2.563364=01      | 4.534828=01      | 5.071370-C2              |
| 5.800000-01                | 2.963889-01                                  | 3.542834-01                | 2.061926-01    | 2.529482-01      | 4.361850-01      | 4.510462-02              |
| 5.600000-01                | 2.924714-01                                  | 3.407695-01                | 1.830206=01    | 2.500605-01      | 4.192170=01      | 4.303576-C2              |
| 5.400000-01                | 2.891324-01                                  | 3.275133-01                | 1.620492=01    | 2.476061-01      | 4.025347-01      | 3.544825-02              |
| 5 200000-01                | 2.862946-01                                  | 3:1448C2=01                | 1.430525=01    | 2.455274-01      | 3.860981-01      | 3-129273-02              |
| 5.000000-01                | 2.838911-01                                  | 3:016392-01<br>2:589624-01 | 1.258399~01    | 2.437741-01      | 3.698719=01      | 2.752747=02              |
| 4.800000-01                | 2.818638-01                                  | 2+764253=01                | 1.102491-01    | 2.423025-01      | 3.538244-01      | 2.411698=02              |
| 4+600000=01                | 2.801623=01                                  | 2.640060-01                | 9.614074-02    | 2.410744-01      | 3.379277-01      | 2.103079=02              |
| 44400000=01                | 2.787422-01                                  | 2.516854-01                | 8.339421-02    | 2.400559-01      | 3.221574-01      | 1.924248-02              |
| 4.200000-01                | 2.775647-01                                  | 2.394467=01                | 7.190389=02    | 2.392177-01      | 3.D64918=01      | 1.572897-02              |
| 4.000000-01                | 2:765955 <b>-</b> 01<br>2:758044 <b>-</b> 01 | 2 272754=01                | 6.157632-02    | 2.385336-01      | 2.909125-01      | 1.346982-02              |
| 3.800000-01                | 2.751649-01                                  | 2.151588-01                | 5.232781-02    | 2.379805-01      | 2.754032-01      | 1.144671=02              |
| 3.600000=01                | 2.746535-01                                  | 2.030861-01                | 4.40825C=02    | 2.375382-01      | 2.599503-01      | 9.643046-03              |
| 3 400000-01                | 2.742495=01                                  | 1.91C483-C1                | 3.577065-02    | 2.371888-01      | 2:445413=01      | 8.043580-03              |
| 3.200000-01<br>3.000000-01 | 2.739348-01                                  | 1.790373-01                | 3.032741-02    | 2:369166-01      | 2.291678=01      | 6.634120-03              |
| 2.800000-01                | 2.736936-01                                  | 1.670468-01                | 2:469163-02    | 2.367079-01      | 2:138198=01      | 5.401294-03              |
| 2.600000-01                | 2.735120-01                                  | 1.550709-01                | 1.980505-02    | 2+3655C9-01      | 1.924968-01      | 4•332355⇒03              |
| 2.400000=01                | 2.733783-01                                  | 1.431050-01                | 14561152-02    | 2.364353-01      | 1.831744-01      | 3.415019=03              |
| 2.200000-01                | 2.732822-01                                  | 1.311449-01                | 1.205642-02    | 2.363522-01      | 1.678654-01      | 2.637343-03              |
| 2.000000-01                | 2.732153-01                                  | 1.191865-C1                | 9.086259-03    | 2:362943-01      | 1.525587-01      | 1.987619=03              |
| 1.800000-01                | 2.731702-01                                  | 1.072258-01                | 6.648218-03    | 2.362553-01      | 1.372490-01      | 1.454298-03              |
| 1.600000-01                | 2.731411-01                                  | 9.525774-02                | 4.689936-03    | 2.362302-Cl      | 1.219299=Cl      | 1.025923-03              |
| 1.400000-01                | 2.731234-01                                  | 8.327498-02                | 3.159266-03    | 2.362148-01      | 1.065920-01      | 6.910894-04              |
| 1.200000-01                | 2.731133-01                                  | 7.126492-02                | 2.004113-03    | 2.362061-01      | 9.121910-02      | 4.383996-04              |
| 1.000000-01                | 2.731081-01                                  | 5.920221-02                | 1.172312-03    | 2.362016-01      | 7.577883-02      | 2.564433=04              |
| B.000000-02                | 2.731057-01                                  | 4.702710-02                | 6.115446-C4    | 2.361995-01      | 6.019468-02      | 1.337754=C4              |
| 6.000000-02                | 2.731047=01                                  | 3.456601-02                | 2.692704-04    | 2.361987-01      | 4.424449-02      | 5.990289-05              |
| 4.0DC000-02                | 2.731045-01                                  | 2.111877-02                | 9.255236-05    | 2.361985-01      | 2.703203-02      | 2.024583=05              |
| 2.00G000=02                | 2.731044-01                                  | 1.130035-03                | 2.551694-05    | 2.361984-01      | 1 446445-03      | >•581851 <b>=</b> 06     |
|                            |  |                            |                |                  |                  |                          |

M = 5.0

| x                              | g                                 | f                    | h                  | p/p <sub>R</sub>     | u/u <sub>R</sub>         | p∕p <sub>B</sub>             |
|--------------------------------|-----------------------------------|----------------------|--------------------|----------------------|--------------------------|------------------------------|
| 1.000000+00                    | 1.160000+00                       | 8.00000000001        | 44999999#00        | 1=000000+00          | 1.0000000+00             | 1.000000+00                  |
| à•800000 <b>=</b> 01           | 9.822B84 <b>~</b> 01              | 7.691753-01          | 3.850293+00        | 8:468004=01          | 9.614692-01              | 7.700587-01                  |
| 9.600000=01                    | 8•478767 <del>-</del> 01          | 7:394840°C1.         | 3.026242+00        | 7:309282=01          | 9.243550-01              | 6.052486=01                  |
| 9+400000=01                    | 7•444979-01                       | 7:110159-01          | 2.421087+00        | 6:418086-01          | 8.887700-01              | 4.842175-01                  |
| 9:200000-01                    | 6•638399-01                       | 6:838305-01          | 14966917+00        | 5:722758=01          | 8.547882=01              | 3.933835=01                  |
| 9+000000=01                    | 6.001269-01                       | 6:579542 <b>-</b> 01 | 1.619299+00        | 5.173508-01          | 8-2244 8-01              | 3.238598-01                  |
| 8 • 800000=01                  | 5•492571-01                       | 6.333811-01          | 1.348429+00        | 4.734975-01          | 7.917264-01              | 24896859-01                  |
| B:600000-01                    | 5.082611-01                       | 6.100766=01          | 1.133881+00        | 4+381561-C1          | 7.625957=01              | 2.267763=01                  |
| 8.400000-01                    | 4.749529-01                       | 5.879825=01          | 9.613781-01        | 4:094422-01          | 7:349781-01              | 1.922756-01                  |
| 8 • 200000=01                  | 4:476995-01                       | 5•670234-01          | 8.207680-01        | 3.859478-01          | 7.087793-01              | 1-641536-01                  |
| 5.000000-01                    | 4.252647-01                       | 5.471127-01          | 7:047174-01        | 3+666075-01          | 6.838909-01              | 1.409435-01                  |
| 7.800000-01                    | 4.067015-01                       | 5•281578 <b>~</b> 01 | 6.C78518=01        | 3.506048-01          | 6.601973=01              | 1:215704=01                  |
| 7.600000-01                    | 3.912765-01                       | 5:100648-01          | 5.261790-01        | 34373073-01          | 6.375810-01              | 1.052358-01                  |
| 74400000=01                    | 3.784155=01                       | 4-927414-01          | 4.566958-01        | 3.262203-01          | 6•159268=01              | 9•133916=02                  |
| 7.200000-01                    | 3•676646-01                       | 4.760997-01          | 3.971161-01        | 3+169523-C1          | 5.951247-01              | 7:042323=02                  |
| 7.000000-01                    | 3.536617-01                       | 4:600573=01          | 3.456797-01        | 3.091911-01          | 5.750717-01              | 6.913594=02                  |
| 6.300000-01                    | 3.511150-01                       | 4.445364-01          | 3.010159-01        | 3.026854-01          | 5.556730 <del>-</del> 01 | 6.020319=02                  |
| 6.600000-01                    | 3•447875=01                       | 4.294738-C1          | 2:620464-01        | 2.972306=01          | 5.368423=01              | P+240029=02                  |
| 6-400000-01                    | 3.394849-01                       | 4+148013-01          | 2:279135=C1        | 2:926594-01          | 5 • 185 C17=01           | 4.558270-02                  |
| 6.200000-01                    | 3 <b>+35</b> 0465 <b>-</b> 01     | 4:004654-01          | 14979278=01        | 2.388332-61          | 5.C05G18-01              | 3.958557-02                  |
| <b>6</b> • 0000000 <b>~</b> 01 | 3.313387-31                       | 3.864167~01          | 1.715296=01        | 2.056368-01          | 4.830209-01              | 3.430592=02                  |
| 5.800000=01                    | 34282494=01                       | 3.726117=C:          | 1.482594-01        | 2.B29737=C1          | 4•657646=01              | 2.765188≃82                  |
| 5.600000-01                    | 3.256842~01                       | 3.590122-01          | 1.277358-01        | 2 807622-31          | 4-437653-01              | 4.554716=02                  |
| 5.400000-01                    | 3.235627-01                       | 3 • 455852 °C1       | 1.096390=01        | 24789334=31          | 4.319815=01              | 2.192780=C2                  |
| 5 • 200000 = 01                | 3.218166-C1                       | 3•323017 <b>-</b> 01 | 9.369743=02        | 2.774282-01          | 4.153772-01              | 1.c73949#02                  |
| 5.000000-01                    | 3.2C3876-01                       | 3.191370-01          | 7.967823-02        | 2.761962-01          | 3.989213-01              | 1.593565-02                  |
| 4•830000 <del>-</del> 01       | 3 <b>.192254=</b> 01              | 3+060699=C1          | 6.737916-02        | 2.751943=01          | 3.325874-01              | 1.347583=82                  |
| 4.600000=01                    | 3.182870 <b>-</b> 01              | 2.930823=01          | 5.662277=02        | 2•743854=01          | 3 • \$ 6 3 5 2 8 = 0 1   | 1.132456=C2                  |
| 4•400000-01                    | 3.175355-01                       | 2•801588 <b>-</b> 01 | 4.725171-02        | 2:737375=C1          | 3.5C1985-01              | 9:450342-23                  |
| 4:200000-01                    | 3:169390-01                       | 2•672866=01          | 3.912503-02        | 2•73223 <b>3</b> =01 | 3.541082≕01              | 7.625097=03                  |
| 4:000000=01                    | 3 <b>•164704<del>-</del>01</b>    | 2.544550 <b>-</b> C1 | 3-211541-02        | 2.728193-01          | 3 • 180687-01            | 6.423032-03                  |
| 3.800000-01                    | 3 <b>-161064-01</b>               | 2:416551=01          | 2 <b>610691-02</b> | 2.725055-01          | 3.023689-01              | 5•221382 <b>-</b> 02         |
| 3.600000-01                    | 3 <b>.</b> 158272 <b>-</b> 01     | 2.288798 <b>-</b> C1 | 2.099333-02        | 2.722649-01          | 2.863798-01              | 4.192666-03                  |
| 3-400000-01                    | 3.156161-01                       | 2.161231-01          | 1.667687=02        | 2:720829-01          | 2.701539#01              | 3+335375=03                  |
| 3.200000-01                    | 3.154591-01                       | 2.033803 <b>-</b> 01 | 1,306719-02        | 2.719475-01          | 2.542254-01              | 2.510438=03                  |
| 3.000000-01                    | 3 <b>•</b> 153443 <del>-</del> 01 | 1 • 906477=31        | 1.008062-02        | 2.718486-01          | 2•383095-01              | 2.016125=03                  |
| 2.600000-01                    | 3.152622-01                       | 1.779222-01          | 7.639684-03        | 2•717777-01          | 2.224528-01              | 1.527937=03                  |
| 2.600000-01                    | 3.152047-01                       | 1.652C16=C1          | 5.672629-03        | 2•717282=31          | 2.065020=01              | 1.134526=03                  |
| 2 400000 01                    | 3.151657-01                       | 1.524841=01          | 4.113189-03        | 2.716946-01          | 1.906051-01              | <b>0 • 226373 ≈ C</b> 4      |
| 2 • 200000 - 01                | 3.151399-01                       | 1.3976B1=C1          | 2.900362-03        | 2.716724-01          | 1.747101-01              | 9.e30724-04                  |
| 2.000000-01                    | 3 <b>•151236<del>-</del>01</b>    | 1.270524=01          | 1.978276=02        | 2.716583-01          | 1.588155-01              | 3 • 95 35 5 2 - 04           |
| 1.500000-01                    | 3.151137~01                       | 1.143358~C1          | 1.296093~02        | 2.716497=Cl          | 1.429198-01              | 2.592187=C4                  |
| 1.600000-01                    | 3.151080-01                       | 1.016170-01          | 8.079478-04        | 2:716448-01          | 1.270212-01              | 1-615096-04                  |
| 1:400000-01                    | 3.151049 <del>-</del> 01          | 8.889383-02          | 4.729019=04        | 2.716422=01          | 1.111173-01              | 9.458040=05                  |
| 1.20000C-01                    | 3.151034-01                       | 7•616286 <b>=</b> 02 | 2.549195-04        | 2.716409=C1          | 9+520358=02              | 54098390-05                  |
| 1.000000=01                    | 3.151028=31                       | 6.341696=02          | 1.228442=04        | 2.716403=01          | 7.927123=02              | 2 • 45 6 6 8 4 = 35          |
| 8.000000=02                    | 3.151025-01                       | 5.063941=C2          | 5.038304-05        | 2.716401-01          | 6.329926-02              | 1.007651-05                  |
| 6.0000000=02                   | 3.151024-01                       | 3.775124-02          | 1.609033-05        | 2.716401-01          | 4.722655-02              | 3.210067-06                  |
| 4:000000=02                    | 3.151024-01                       | 2 • 464444-C2        | 3.350261=06        | 2.716400=C1          | 3.080556=02              | 6+70C523=C7                  |
| 2.000000=02                    | 3.151024-01                       | 9 • n 26679=02       | 3.464128-07        | 2•716400=31          | 1.203335=02              | <b>0.</b> 92825 <b>7-</b> 98 |
|                                |                                   |                      |                    |                      |                          |                              |

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|                                   |  |                                | -                          |                  |                      |                      |
|-----------------------------------|--|--------------------------------|----------------------------|------------------|----------------------|----------------------|
| x                                 | g  | Í                              | h                          | p/p <sub>R</sub> | u/u <sub>R</sub>     | ρ∕ρ <sub>R</sub>     |
|                                   |  | 8.163265-01                    | 5444445+00                 | 1.000000+00      | 1.0000000+00         | 1.6000000+00         |
| 14000000+00                       | 1.163265+00                                  | 7.835297-01                    | 3.973034+00                | 8.333592-01      | 9.598239 <b>-</b> 01 | 7+297409=C1          |
| 9.800000-01                       | 9.694179-01                                  | 7.524467-01                    | 2.988690+00                | 7.136315-01      | 9.217472=01          | 5.489431 <b>-</b> 01 |
| 9.600000=01                       | B.301428-01                                  |                                | 2.304992+CC                | 6.254490-01      | 8.658514-01          | 4.233650=01          |
| 9.400000-01                       | 7.275631-01                                  | 7.231440-01                    | 1.814532+00                | 5.591635-01      | 8.5214G1-C1          | 8.332813 <b>-01</b>  |
| 9.200000-01                       | 6.504555-01                                  | 6.956246 <del>°</del> 01       | 1.452665+00                | 54084868-01      | 8.205480-01          | 2.668160=01          |
| 9.000000=01                       | 5.915051-01                                  | 4.698351-01                    | 1.179023+CC                | 4-6919C3=C1      | 7.909552-C1          | 2.165553-31          |
| 8.800000-01                       | 5.457928-01                                  | 6.456777701                    | 9.675824=01                | 4.383541-01      | 7.532048-01          | 1.777192-01          |
| 8.600000=01                       | 5.099221-01                                  | 6.230244=01                    | 84010904-01                | 4.139155-01      | 7.371194-01          | 1.471591-01          |
| 8.400000-01                       | 4.314936-01                                  | 6:017302=01                    | 6.675236=01                | 3.943883=C1      | 7.123146-01          | 1.228615=01          |
| 8 <b>-200000-01</b>               | 4.597762-01                                  | 5.816446-C1                    | 5.596332-01                | 3.786820-01      | 6.892093=01          | 1.027898=01          |
| 8.000000-01                       | 4,405077-01                                  | 5.626198=Cl                    | 4.707370-01                | 3.659535-C1      | 6.670319-01          | 0.646190=12          |
| 7.800000=01                       | 4.25736D-01                                  | 5.445158-01                    |                            | 3.556774-01      | 6.458247=0           | 7.290953-02          |
| 7.600000-01                       | 4.137471-01                                  | 5.27203B=01                    | 3.969522-01                | 3.472908=01      | 6.254455-01          | 6.156689-02          |
| 7 <b>.</b> 400000 <del>-</del> 01 | 4.039913-01                                  | 5.105677-01                    | 3.351975-01                | 3.404362=01      | 6.C57679=01          | 5.200965-62          |
| 7.200000-01                       | 3.960409-01                                  | 4.945044-01                    | 2.831635-01                | 3.348841-01      | 5.866811-C1          | 4,291461-C2          |
| 7.000000-01                       | 3.695590-01                                  | 4.769233-01                    | 2,390906-01                | 3.303437-01      | 5.580387=C1          | 3.703156-C2          |
| 6.800000 <del>-</del> 01          | 3.842774=01                                  | 4.637459-01                    | 2.016163-01                | 3.266497-01      | 3.499C77=01          | J.1:6369-02          |
| 5∎600000 <del>-</del> 01          | 3.799803-01                                  | 4.489042-01                    | 1.696690-01                | 3.236514-01      | 5.320168=C1          | 2.615386-02          |
| 5.400000=01                       | 3.764924-01                                  | 4.343402-01                    | 1.423932-01                | 3.212256-01      | 5.145055-01          | 2.157475-52          |
| 6.200000=01                       | 3.735706-01                                  | 4.200045-01                    | 1.190959=01                | 3.192710-01      | 4.971725=01          | 14822177-02          |
| 6.000000-01                       | 3•713969 <b>-</b> 01                         | 4.058551-01                    | 94920742-02                | 3-177037-01      | 4.500248=01          | 1.510701-02          |
| 5.800000-01                       | 3.695737-01                                  | 3-918569-01                    | 8.225365-02                | 3,164540-01      | 4.630263-01          | 1,245945=32          |
| 5.600000=01                       | 3.681200-01                                  | 3.779806-01                    | 6.783479-02                | 3.154640=01      | 4.461471-01          | 1.021409-02          |
| 5.400000-01                       | 3.669684-01                                  | 3.642017-01                    | 54561005-02                | 3.146854-01      | 4.293626=01          | 8.317841=03          |
| 5:200000=01                       | 3.650626-01                                  | 3.505001-01                    | 4.528603-02                | 3.140780-01      | 4.126525=31          | 6.723922-03          |
| 5±000000 <del>-</del> 01          | 3.653560-01                                  | 3.368592-01                    | 3.660802-02                | 3.136084=01      | 3.960004=01          | 5.391444-03          |
| 4 • 800000-01                     | 3.648098-01                                  | 3.232656-01                    | 2.935342-02                | 3.132490=01      | 3.793929=01          | 4.284494-03          |
| 4.600000=01                       | 3.643917-01                                  | 3.097085-01                    | 2.332669=02<br>1.835546=02 | 3.129769-01      | 3-626195-01          | 3.371410-03          |
| 4.400000-01                       | 3.640752-01                                  | 2.961792=01                    | 1.428751-02                | 3.127734-01      | 3.462718-01          | 2.624236-03          |
| 4.200000-01                       | 3.638385-01                                  | 2 826709-01                    | 1.098837=C2                | 3.126233-01      | 3-297432-01          | 2.C18272=03          |
| 4.000000=01                       | 3.636638-01                                  | 2.691781-01                    | 8.339385=03                | 3-125141-01      | 3.132285-01          | 1.531724-03          |
| 3.800000-01                       | 3.635368-01                                  | 2.556967-01                    | 6.236087=03                | 3.124360-01      | 2.957239-01          | 1-145404-03          |
| 3.600000-01                       | 3.634460-01                                  | 2.422236-01                    | 44586867=03                | 34123813-01      | 2.802264-01          | 8.424858=34          |
| 3.400000-01                       | 3.633823-01                                  | 2.287563~01                    | 3.311787=03                | 3.123436-01      | 2.637338-01          | 6+082874-04          |
| 3.200000-01                       | 3.633384-01                                  | 2:152929=01                    | 2.341531-C3                | 3-123182-01      | 2.472445-01          | 4.300771-04          |
| 3.000000-01                       | 3.633090-01                                  | 2.018322-01                    | 1.616453=03                | 3.123016-01      | 2.307572-01          | 2.968996-04          |
| Z.800000-01                       | 3.632897-01                                  | 1.883733=01                    | 1.085695=03                | 34122911-01      | 2.142713=01          | 1.994134-04          |
| 2.600000-01                       | 3.632774-01                                  | 1.749153=01                    | 7-063512-04                | 3-122846-01      | 1.977859-01          | 1.297389~04          |
| 2.400000-01                       | 3.632699-01                                  | 1-614579-01                    | 4.426800=04                | 3.122808-01      | 1.813007-01          | a 130857=05          |
| 2.200000-01                       | 3.632655-01                                  | 1.480006=01<br>1.345431=C1     | 2.653476=04                | 3-122787-01      | 1.648153=01          | 44873732=05          |
| 2.000000-01                       | 3.632630-01                                  |                                | 1.507011-04                | 3-122775-01      | 1.483293=01          | 2:767973-05          |
| 1.800000=01                       | 3.632616-01                                  | 1.210852=01                    | 8.007018-05                | 3.122770-01      | 1.318422-01          | 1:470677-05          |
| 1.600000-01                       | 3-632610-01                                  | 1a076263=01<br>9a416582=02     | 3.909701-05                | 3.122767=01      | 1.153531-01          | 7:181084-05          |
| 1.400000=01                       | 3.632606-01                                  |                                | 14709314-05                | 3.122766-01      | 94886075-02          | 3.139556=06          |
| 1.200000-01                       | 3.632605-01                                  | 8 • 070265-02<br>6 • 723435-02 | 6.427045-06                | 3.122765-01      | 8.2362C8=02          | 1.180478-06          |
| 1.000000-01                       | 3.632604-01                                  | 5.375515=02                    | 1.943352-06                | 3.122755-01      | 6.585006=02          | 3.569422-07          |
| B • 0000000=02                    | 3.632604-01                                  | 4.024828=02                    | 4.172733-07                | 3.122765-01      | 4.930414-02          | 7:664204=08          |
| 6.000000-02                       | 3.632604-01                                  | 2.664572=02                    | 4.861935=08                | 3.122764-01      | 3.264100=02          | 8.930084-09          |
| 4.0000000002                      | 3,632603 <b>-</b> 01<br>3,632603 <b>-</b> 01 | 1.239560=02                    | 1.554623-09                | 3.122764-01      | 1.518461-02          | 2.855430-10          |
| 2.0000000=02                      | 38035003-01                                  | TATALAN AP                     |                            | <del>-</del>     |                      |                      |

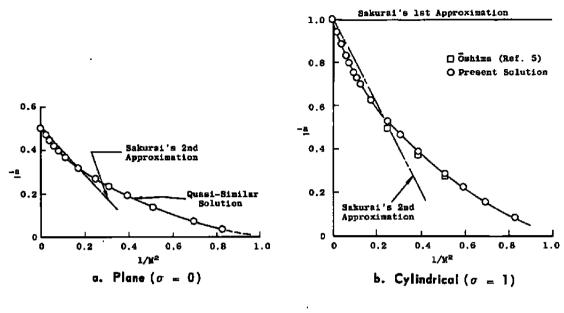
M - 10

| x                   | g           | f           | h               | p/p <sub>R</sub>     | u/u <sub>R</sub>      | ρ∕p <sub>R</sub>           |
|---------------------|-------------|-------------|-----------------|----------------------|-----------------------|----------------------------|
| 1.000000+00         | 1.165000+00 | 8-250000-01 | 5.714286+00     | 1.000000+00          | 1.000000+00           | 1-400440+04                |
| 9.800000-01         | 9.421062-01 | 7-911610-01 | 4.026237+00     | 8-256422-01          | 9.589831-01           | 1+000000+00<br>7+045924-01 |
| 9.600000-01         | 8.211155-01 | 7=594669-01 | 2.945313+00     | 7.048201-01          | 9 • 205660-01         | 5-154297-01                |
| 94400000-01         | 7.200990-01 | 7.299397-01 | 24219620+00     | 6-181107-01          | 8.847753-01           | 3.884334-01                |
| 9+200000-01         | 6.459312-01 | 7:025138-01 | 1.712723+00     | 5-544474-01          | 5.515318-01           | 2.997264-01                |
| 9.000000-01         | 5.903851-01 | 6.770563-01 | 1-346558+00     | 5.067683-01          | 8 206743-01           | 2+356476-01                |
| 8.800000-01         | 5.481060-01 | 6.533906-01 | 1.074374+00     | 4.704773-01          | 7-919886-01           | 1.880155-01                |
| 8.600000-01         | 5.154975-01 | 6.313187-01 | 8.670619-01     | 4.424872-01          | 7-652348-01           | 1.517358-01                |
| 8.400000-01         | 4.900784-01 | 6.106383-01 | 7.058709-01     | 4.206682-01          | 7.401677-01           | 1.235274-01                |
| 8•200000-01         | 4.700959-01 | 5.911554-01 | 5.783550-01     | 4.035158-01          | 7-165520-01           | 1.012121-01                |
| 8.000000-01         | 4.542855-01 | 5.726905-01 | 4.760240-01     | 3-899446-01          | 6.941703-01           | 8.330420-02                |
| 7 <b>+800000-01</b> | 4-417171-01 | 5.550830-01 | 3-929397-01     | 3.791563-01          | 6.728279-01           | 6.876444-02                |
| 7+600000-01         | 4.316948-01 | 5.381916-01 | 3.248509-01     | 3:705535-01          | 6+523534-01           | 5-684890-02                |
| 7-400000-01         | 4.236893-01 | 5.218939-01 | 2.686471-01     | 3-636818-01          | 6.325986-01           | 44701324-02                |
| 7.200000-01         | 4.172921-01 | 5.060852-01 | 2.220051-01     | 3-581906-01          | 6+134366-01           | 3-865090-02                |
| 7.000000-01         | 4.121841-01 | 4.906768-01 | 1.031551-01     | 3.538061-01          | 5.947598-01           | 3.205215~02                |
| 6.800000-01         | 4.081131-01 | 4.755940-01 | 14507238-01     | 5.503117-01          | 5.764776-01           | 2+637666-02                |
| 6.600000-01         | 4.048778-01 | 4.607744-01 | 1.236266~01     | 3-475346-01          | 5-585145-01           | 24163465-02                |
| 6.400000-01         | 4.023165-01 | 4•461662-01 | 1:009931-01     | 3-453360-01          | 5.408075-01           | 1-767378-02                |
| 6.200000-01         | 4.002981-01 | 4-317265-01 | 8.211396-02     | 3-436035-01          | 5 - 233048-01         | 1-436994-02                |
| 6.000000-01         | 3.987164-01 | 4.174202-01 | 6.640375-02     | 3-422458-01          | 5.059639-01           | 1.162066-02                |
| 5.800000-01         | 3.974847-01 | 4.032190-01 | 5:337340-02     | 3.411886-01          | 4+687502-01           | 9.340346-03                |
| 5.600000-01         | 3.965326-01 | 3.890995-01 | 4.261051-02     | 3.403713-01          | 4.716357-01           | 7+456839-03                |
| 5.400000~01         | 3.958024-01 | 3.750432-01 | 3.376462-02     | 3.397445-01          | 4.545978-01           | 5.908808-03                |
| 5.200000-01         | 3.952473-01 | 3.610353-01 | 2.653623-02     | 3-392681-01          | 4:376186-01           | 4-643841-03                |
| 5.000000-01         | 3.948296-01 | 3•470642-01 | 2.066840-02     | 3.389095-01          | 4:206836-01           | 3+616969-03                |
| 4.800000-01         | 3.945185-01 | 3.331205-01 | 1.594023-02     | 3.386425-01          | 4.037824-01           | 2.789540-03                |
| 4.600000-01         | 3,942896-01 | 3.191973-01 | 1.216179-02     | 3.384460-01          | 3-869058-01           | 2.128313-03                |
| 4+400000-01         | 3.941233-01 | 3+052889-01 | 9.169928→03     | 3.383033-01          | 3-700472-01           | 1.604737-03                |
| 4.200000-01         | 3.940043-01 | 2.913913-01 | 6.824902-03     | 3.382011-01          | 3.532016-01           | 1-194358-03                |
| 4-000000-01         | 3.939203-01 | 2.775013-01 | 5.007468-03     | 3.381290-01          | 3.363652-01           | 8.763069-04                |
| 3.800000-01         | 3.938622-01 | 2+636167-01 | 3.616414~03     | 3.380791-01          | 3 • 195 354 - 01      | 6.328725-04                |
| 3.600000-01         | 3.938227-01 | 2.497356-01 | 2.566387-03     | 3.380452-01          | 3+027099-01           | 4.491177-04                |
| 3-400000-01         | 3.937963-01 | 2.358570-01 | 1 - 78 595 2-03 | 3:380226-01          | 2-658873-0]           | 3-125416-04                |
| 3-200000-01         | 3.937792-01 | 2.219799-01 | 1.215861-03     | 3:380079-01          | 2+690666-01           | 2-127757-04                |
| 3.000000-01         | 3.937684-01 | 2:081037-01 | 8.074740-04     | 3.379986-01          | 2+522470-01           | 1-413080-04                |
| 2.800000-01         | 3.937618-01 | 1.942280-01 | 5.213310-04     | 3+379929-01          | 2+354279-01           | 9.123292-05                |
| 2.600000-01         | 3.937578-01 | 1.803525-01 | 3.258507-04     | 3.379895-01          | 2.186091-01           | 5.702387-05                |
| 2.400000-01         | 3,937556-01 | 1.664769-01 | 1.961496-04     | 3 <b>+379876+</b> 01 | 2.017902-01           | 3.432618~05                |
| 2.200000-01         | 3.937543-01 | 1.526010-01 | 1.129731-04     | 3.379865-01          | 1.849709-01           | 1.977029-05                |
| 2.000000-01         | 3.937537-01 | 1.387246-01 | 64173383-05     | 3•379860-01          | 1:681511-01           | 1.080342-05                |
| 1.800000-01         | 3.937534-01 | 1-248474-01 | 3.165323-05     | 3+379857-01          | 1.513302-01           | 5•539316-06                |
| 1.600000-01         | 3.937532-01 | 1.109688-01 | 1.500186-05     | 3.379856-01          | 1.345077-01           | 2 • 625325-06              |
| 1.400000-01         | 3.937531-01 | 9.708815-02 | 6.435503-06     | 3.379855-01          | 1.176826-01           | 1.126213-06                |
| 1.200000-01         | 3.937531-01 | 8.320381-02 | 2.423246-06     | 3.379855-01          | 1.008531-01           | 4+240664-07                |
| 1.000000-01         | 3.937531-01 | 6.931259-02 | 7.638326-07     | 3.379855-01          | 8:401526-02           | 1.336707-07                |
| 6.000000-02         | 3-937530-01 | 5.540677~02 | 1.862689-07     | 3 • 379854-01        | 6.715972-02           | 3+259706-08                |
| 6.000000-02         | 3.937530-01 | 4.146389-02 | 3.039227-08     | 3.379854-01          | 5 • 0 2 5 9 2 6 - 0 2 | 5.318648-09                |
| 4.000000-02         | 3.937529-01 | 2.739285-02 | 2.439143-09     | 3.379854-01          | 3.320345-02           | 4.268500-10                |
| 2.000000-02         | 3.937529-01 | 1.245450-02 | 4.867287-11     | 3.379853-01          | 1.509636-02           | 8.517752-12                |
|                     |             |             |                 |                      |                       |                            |

# TABLE 4 (Concluded)

M = ∞

|                             |                                     |  | м 5 %          |                      |                            |                               |
|-----------------------------|-------------------------------------|--|----------------|----------------------|----------------------------|-------------------------------|
| ж                           | g                                   | f  | h              | p/p <sub>R</sub>     | u/u <sub>R</sub>           | p∕ P <sub>R</sub>             |
|                             | 1 1011194                           | 8.333333=01                                  | a • 0000000+u0 | 1.5000000+00         | 1.000000+00                | 1.0000000+00                  |
| 1.000000+00                 | 1.166667+00                         | 7-985383-01                                  | 4.065940+00    | 3.134940=C1          | 9ab82460#J1                | 6.775567-01                   |
| 30030-01                    | 9.549096-01                         | 7.564040=01                                  | Z 384840+3U    | 5.369446-01          | Sal9oc-J=-1                | <u>~.5000067</u> =01          |
| 5.600000=01                 | ueis1020=31                         | /=_68695=C1                                  | 2.119730+30    | 6.124489-01          | 8:5-4-34-01                | 3.502.00-7.01                 |
| 9.400000-01                 | 7.145237=01                         | 7.097626-01                                  | 765+60         | 5.519625=31          | 3.517151-01                | 74=51عدىۋە2                   |
| 9.200000-01                 | 6.439796-01                         | 6.549411-01                                  | 1.232197+00    | 108-01               | 8.218093-01                | _aე5362=01                    |
| 0000007-01                  | 5.923292-01                         |  | 9.637829=01    | 4.747040-01          | 7.2419.150.                | 1.506305-01                   |
| 3.300000=01                 | 3.033213=01                         | 6•618314=31<br>6•++4577=31                   | 7.624758=31    | 4.497428-Cl          | 7.585472=01                | 1.27079                       |
| 8.500000-01                 | p.246999=01                         | 04204605=C1                                  | 6.551837=31    | 4.306571-01          | 7.445526-Cl                | 1.3135-0-61                   |
| 2.400000-01                 | 5.024332-01                         | 6.016063-01                                  | 4.878451=01    | 432-5.               | 7   21 9276=01             | ა <b>ა</b> [ან7 <b>52−</b> 02 |
| 34200300=01                 | 4.852670-01                         | 5.336914~01                                  | 3.926871-01    | 4-04-350-01          | 7.004297=0_                | e.544765 <b>=</b> 02          |
| 300000=01                   | 4.717052-01                         |  | 3.165391-01    | 34956514-01          | 6,7985Cu=-1                | >•277316 <b>=</b> 0∠          |
| 7.800000-01                 | 4.615933-01                         | 5.665417=01                                  | 245:3033=01    | 3.887244-C1          | 6.000127-01                | 4 <b>-</b> 256388 <b>-</b> 00 |
| 7.600000-01                 | 4.535117-01                         | 5•∍30106 <b>~</b> 01<br>5•339762 <b>~</b> 01 | 2.057697=01    | 3.253198-01          | 6.407715=C1                | 5-2-29495-02                  |
| 7.400000=01                 | 4.472064-01                         | 54183580=01                                  | 1.654454=21    | 3.791074-01          | 6.220056-01                | ∠•757423 <b>⇒</b> 02          |
| 7.200000-01                 | 4.422920-01                         |  | 1.3261+3-01    | 3.758318-01          | 6.036163=01                | 2.210239=02                   |
| 7.000000-01                 | 4.364704-01                         | 5.030136-01<br>4.379362-01                   | 1.056789=31    | 3.732934-C1          | 5.055234-01                | 1.764649=02                   |
| 6.800000-01                 | 4.355089=01                         | 4.730515-31                                  | £ 413226=02    | 3.713350=01          | 3.676622=01                | 1.402204=02                   |
| 5.600000-01                 | 4.332241-01                         | 4.583172=01                                  | 6.648464-02    | 3.698322-31          | 5.499806-01                | 1.104077-02                   |
| 5-400000-01                 | 4-314709-01                         | 44436976=01                                  | 5.221199-02    | 3.696865-01          | 5.324374=Cl                | b.701999=03                   |
| 5.200000-01                 | 4.301342=01                         | 4.291664-01                                  | 4.071920-02    | 3.678191-01          | 5.149997=C1                | 6.783533=02                   |
| 5.000000-01                 | 4.291222-01                         | 44147017-01                                  | 3.151350-02    | 3.671578-01          | 4.076420=01                | 5.252250=03                   |
| 5.800000-01                 | 4.203624=01<br>4.277968=31          | 4.002368=01                                  | 2.418482=02    | 3.666830=01          | 4.603441=Cl                | 4.ç30303=03                   |
| 5.600000-01                 | • -                                 | 3.859090-01                                  | 1.839095-02    | 3.563258=01          | 4.600908-01                | 3.065158-03                   |
| 5.400000-01                 | 4.273800 <b>-</b> 31<br>4.270761-31 | 3.715584-01                                  | 1.384603-02    | 3.660653-01          | 4,458701-01                | 2.307671-03                   |
| 5.200000-01                 | 4.268572=31                         | 3.572275-01                                  | 1.03:154-02    | 3.658776-01          | 4.23673C=01                | 1,712569-03                   |
| 5.0000000=01<br>4.600000=01 | 4,267C13=01                         | 3.429108-01                                  | 7.588915-03    | 3.657440*CI          | 4.11493C=01                | 1,264819-03                   |
|                             | 4.265920=01                         | 3.286040=31                                  | 5.513545-03    | 34556503=01          | 3.543248-01                | V • 139242-04                 |
| 4.400000=01                 | 4.265164=31                         | 3.143342-C1                                  | 3.949655=00    | 3.655855-01          | 3.771651-01                | 6.532755-04                   |
| 4.200000-01                 | 4.254551=31                         | 3.0000091-01                                 | 2.785992-C3    | 3.655415-Cl          | 3.500109~01                | 4.543320-04                   |
| 4.000000=01                 | 4.264308=01                         | 2.857172=01                                  | 1.932090-03    | 3.655121-01          | 3-423606-01                | 3.220150-04                   |
| 3.800000=01                 | 4.264093-01                         | 2.714273-C1                                  | 1.31:035-03    | 3.554929=C1          | 3.257128-31                | 2.101724-04                   |
| 3.600000-01                 | 4.253940-01                         | 2.571387=01                                  | 8.756441-04    | 3:654806-01          | 3.005664-01                | 1./61073-04                   |
| 3.400000-01                 | 4.263850=01                         | 2.428508=01                                  | >=71C182=04    | 3.554729-01          | 2.714210-01                | 9.516970-05                   |
| 3.200000-01                 | 4.263796-C1                         | 2.285633-01                                  | 3,624051-04    | 3.454682-31          | 2.742750-01                | 6.040086=05                   |
| 3.0000C0-01                 | 4.263764-01                         | 2 • 142759 Cl                                | 2:233563-C4    | 3•654655 <b>-</b> Cl | 2.571311-01                | 3.722606-05                   |
| 2.800000-01                 | 4.263745=01                         | 1.999884~01                                  | 1.331381-04    | 3•654639 <b>~</b> Cl | 2.399861-01                | Z.218768=05                   |
| 2.600000-01                 | 4.263735-01                         | 1.857007-31                                  | 74537596=05    | 3.554630-01          | 2:225408-01                | 1.272932-05                   |
| 2.400000=01                 | 4.263730=01                         | 14714125=01                                  | 4.190790=05    | 3.654626-01          | 2.056950-01                | 64784650-06                   |
| 2.200000-01                 | 4.263727-01                         | 1.571236-01                                  | 2.182527=05    | 3.654624-C1          | 1.585483-01                | 34607545-06                   |
| 2.000000=01                 | 4.263726-01                         | 1.428338-01                                  | 1.068139=05    | 3.654622=C1          | 1.714005-01                | 1.786231-06                   |
| 1.809000-01                 | 4.263725=01                         | 1.285425=C1                                  | 4.848603-05    | 3.654622-01          | 1.542510-01                | 8.001005-07                   |
| 1.600000=01                 | 4.263725-01                         | 1.142491-01                                  | 2.005582-35    | 3.654621-01          | 1.373989=31                | 3.342637=07<br>1.229125=07    |
| 1.400000-01                 | 4.263724-01                         | 9.995208=02                                  | 7,374748-07    | 3.554521=31          | 1.199425=C1                | 34075219=08                   |
| 1.200000-01                 | 4.262724=01                         | 8.564902-02                                  | 2.325131-07    | 3.654521-01          | 1.027788=01                | 94908975=09                   |
| 1.000000-01                 | 4,253724-01                         | 7:133455-02                                  | 5.945385=08    | 3.654620-01          | 8.560146=02<br>6.639509=02 | 1+874591=09                   |
| 8.00000C=02                 | 4.263723-01                         | 5 <b>-699591-</b> 02                         | 1.124635-03    | 3.654620-01          | 5.111503-02                | 2+219913=10                   |
| 6.000000-02                 | 4.263723-01                         | 4.259586-02                                  | 1.331948-09    | 3.654620-01          | 3.358021=02                | 1.176003=11                   |
| 4.000000-02                 | 4.253722-01                         | 2.7983:1-02                                  | 7.056015-11    | 3:654619=01          | 1.432120-02                | 1.507117-13                   |
| 2.000000=0                  | 4.263722-Cl                         | 1.193434-02                                  | 9.642702-13    | 3.654619-01          | 14435764.45                |                               |



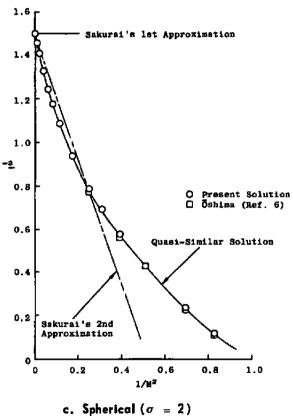


Fig. 1 Decay Coefficient for Blast Waves in Air ( $\gamma = 1.4$ )

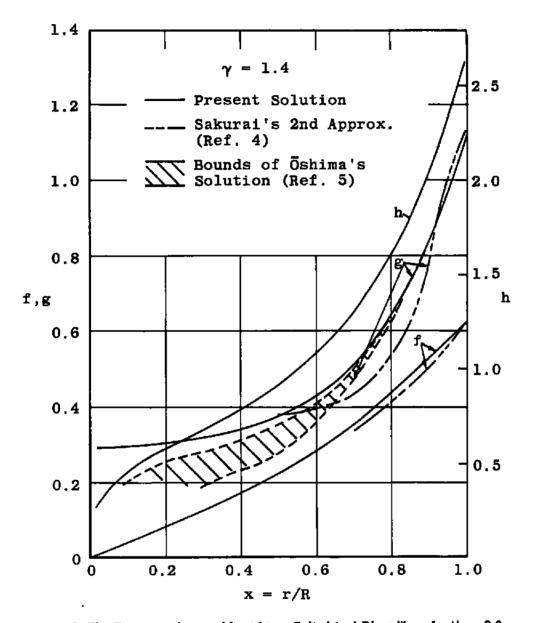
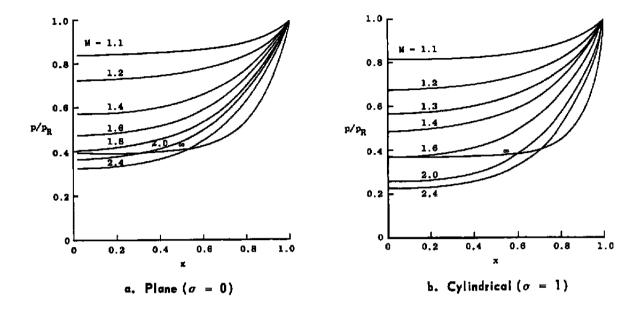


Fig. 2 The Functions f, g, and h within a Cylindrical Blast Wave for M = 2.0



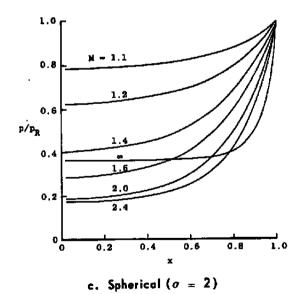
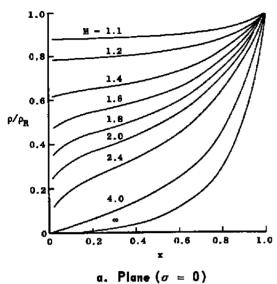
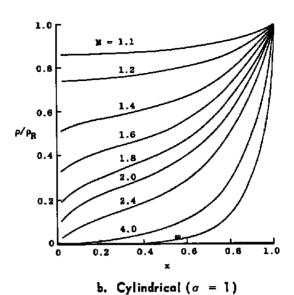


Fig. 3 Pressure Distributions within Blast Waves in Air ( $\gamma=1.4$ )





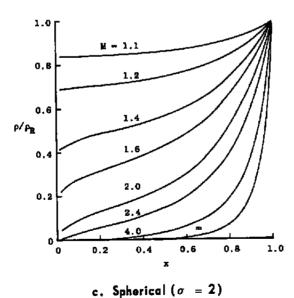
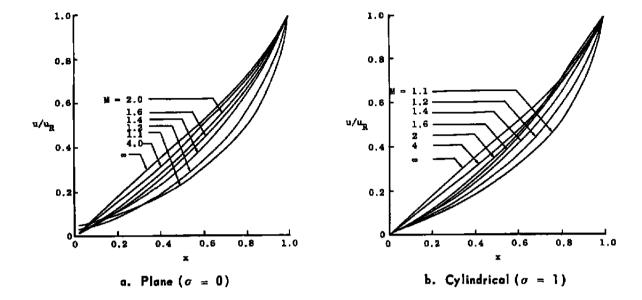


Fig. 4 Density Distributions within Blast Waves in Air (y = 1.4)



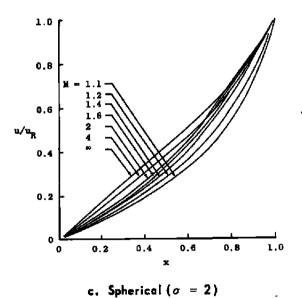
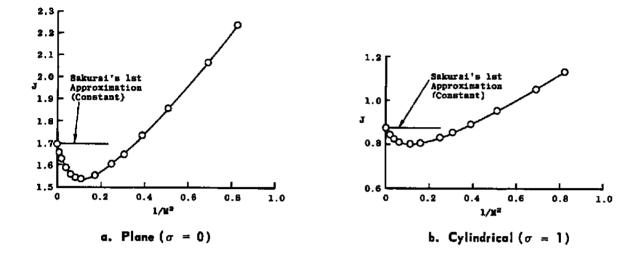


Fig. 5 Velocity Distributions within Blast Waves in Air (y = 1.4)



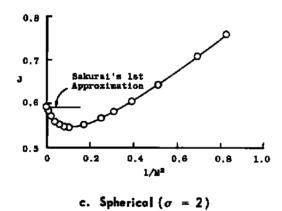


Fig. 6 The Function J for Blast Waves in Air ( $\gamma = 1.4$ )

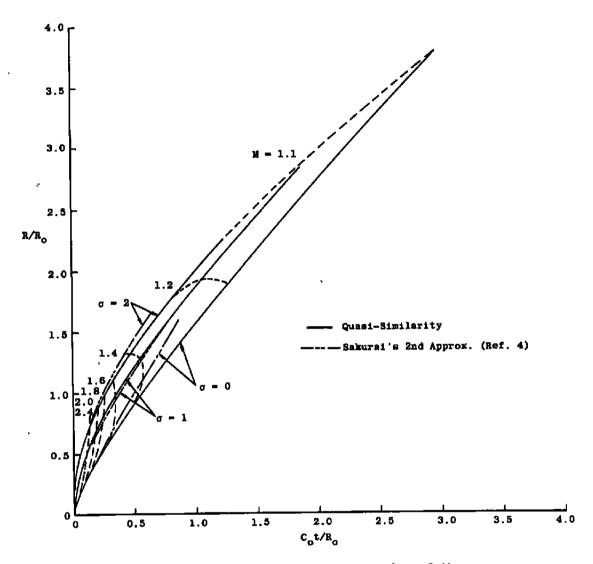


Fig. 7 Propagation of Blast Waves in Air ( $\gamma = 1.4$ )

### AEDC-TN-61-157

Arnold Engineering Development Center, ARO, Inc., Arnold Air Force Station, Tennessee PLANE, CYLINDRICAL, AND SPHERICAL BLAST WAVES BASED UPON ÖSHIMA'S QUASI-SIMILARITY MODEL by Clark H. Lewis, December 1961. 67 pp. (ARO Project No. 300149) (OAR Program Area 806A, Project 8951, Task 89103) (AEDC-TN-61-157) (Contract No. AF 40(600)-600 S/A 24(61-73)).

#### 6 references

Numerical solutions are given for plane, cylindrical, and spherical blast waves in air based upon Oshima's quasi-similarity model (University of Tokyo, Report No. 358, July 1960, pp. 137-193). New solutions are given for plane and apherical waves in addition to the cylindrical solutions given previously by Oshima. The results for rylindrical flow do not agree with Oshima's results near the core of the explosion. These differences are discussed, and the precision of the present numerical solution is given. The results provide new data for investigating blast waves or the blast-hypersome analogy.

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- I. Blast analogy
- 2. Hypersonic flow--Mathematical analysis
- 3. Blest waves
- I. Lewis, Clark H.

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- 1. Blast analogy
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- 3. Blast waves
- I. Lewis, Clark H

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Arnold Engineering Development Center, ARO, Inc., Arnold Air Force Station, Tennessee
PLANE, CYLINDRICAL, AND SPHERICAL BLAST WAVES
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- 2. Hypersonic flow--Mathematical analysis
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### **UNCLASSIFIED**

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- 3. Blast waves
- I. Lewis, Clark II

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